QMS® magicolor® 2+ Print System Operation

1800546-001A

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Introduction

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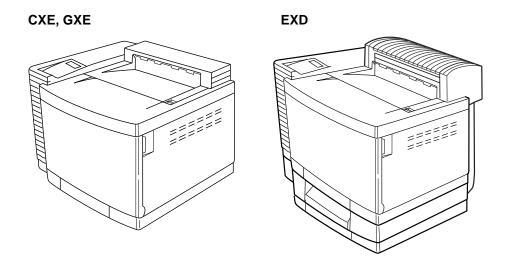
- "Introduction" on page 1-2
- "About the Printer" on page 1-2
- "About the Documentation" on page 1-3
- "About This Manual" on page 1-8
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Introduction

This manual provides an overview of your printer documentation and information on installing consumables such as media and toner cartridges. You'll also find information on advanced printing features, printer care, print quality, and troubleshooting. Use this manual in conjunction with your other QMS *magicolor* 2+ documentation.

About the Printer

The QMS magicolor 2+ Print System comes in three models: CXE, GXE, and EXD.



Standard Features

| QMS magicolor 2+ CXE | QMS magicolor 2+ GXE | QMS magicolor 2+ EXD | |
|-------------------------------------|--------------------------------------|---|--|
| ■ 32 MB DRAM (upgradable to 384 MB) | ■ 80 MB DRAM (upgradable to 384 MB) | ■ 192 MB DRAM (upgradable to 384 MB) | |
| ■ 600x600 dpi | ■ 2400x600 dpi | ■ 2400x600 dpi | |
| Manual duplex printing | ■ Manual duplex printing | Automatic duplex printing | |
| 250-sheet letter/A4 media cassette | ■ 250-sheet letter/A4 media cassette | ■ 250-sheet letter/A4 media cassette and 250-sheet letter/A4 lower input feeder | |
| | | ■ IDE internal hard disk drive | |
| | | ■ Time-of-day clock | |

- Softloadable system code via flash memory
- 16 ppm (pages-per-minute) monochrome/4 ppm color print speed (letter/A4 paper; 600x600 dpi)
- PostScript Level 2, HP PCL and HP-GL 2 fonts, and Line Printer emulations
- RISC (NEC 4310)-based controller
- Centronics/IEEE 1284 parallel, RS-232C serial, and QMS CrownNet 10BaseT/100BaseTX Ethernet (EtherTalk, LAN Manager/LAN Server, NetWare, TCP/IP) interfaces
- Microsoft Plug and Play support (parallel only)
- Energy Star compliant

About the Documentation

The documentation provides a window into the many capabilities of your printer. The more familiar you are with the documentation, the easier it'll be for you to achieve the results you want from your printer. This section gives you an idea of how we've organized information and which documents you'll probably refer to the most.

Introduction 1-3

Standard Product Documentation

| Installation Guide SUS Bit angions' Disks are first figure | QMS magicolor 2+ Print System Installation Guide | This guide assists in getting the printer up and running. It is to be used as a quick setup reference only and should be used in conjunction with the full manuals. Note: This guide is also in Adobe Acrobat PDF format on the magicolor 2+ Documentation CD-ROM. |
|---|---|--|
| | QMS magicolor 2+ Print System Operation | You're looking at this document right now. It introduces the printer and documentation and explains the control panel. This manual guides you through the day-to-day operation of your printer. It includes information on printing files, adding print media, and replacing toner. It also includes information on handling, cleaning, and maintaining your printer; improving print quality; and troubleshooting printer problems. Note: This manual is also included as an Adobe Acrobat PDF file on the magicolor 2+ Documentation CD-ROM. |
| | Connecting Your QMS Print System | This manual guides you through connecting your printer to a computer or a network and configuring your printer for network printing. Note: This manual is also iincluded as an Adobe Acrobat PDF file on the Software Utilities CD-ROM. |
| magicolor 2+ Documentation CD-ROM | QMS magicolor 2+ Print System Options (Adobe Acrobat PDF) | Refer to this manual for information on installing and using printer options: emulations, security key, memory upgrades, fonts, interfaces, hard disks, and system software updates. |

About the Documentation

| magicolor 2+ Documentation CD-ROM | QMS magicolor 2+ Print System Reference (Adobe Acrobat PDF) | Refer to this manual when you need to change your printer's configuration. It also provides information on typefaces and fonts, job accounting, printer memory, and other advanced printer features. The system administrator should get the most use from this manual. |
|-----------------------------------|---|---|
| Software Utilities CD-ROM | QMS Crown Remote Console User's Guide (Adobe Acrobat PDF) | This manual describes how to use the Remote Console software to access printer information and change printer configuration settings from anywhere on the network. |
| Software Utilities CD-ROM | QMS Crown Network Notes (Adobe Acrobat PDF) | Refer to this document for network tips. It discusses 3Com 3+Open, Banyan VINES, LAN Manager-based LANs, Novell NetWare, TCP/IP, UNIX, DECnet, and VMS. In most cases, only advanced network users and system administrators need this information. |
| Software Utilities CD-ROM | QMS CrownNet System Administrator's Guide (Adobe Acrobat PDF) | Refer to this manual when configuring the printer's QMS CrownNet 10BaseT/100BaseTX Ethernet or optional QMS CrownNet Token-Ring interface and when using the QMS CrownAdmin software. |
| Software Utilities CD-ROM | QMS Crown Document Option Commands (Adobe Acrobat PDF) | This manual lists and explains all QMS Document Option Commands (DOCs), software codes you insert in documents to enable printer features that can't be accessed by your application or page description language. Printer-supported DOCs are listed in appendix C, "Document Option Commands," of the <i>Reference</i> manual. In most cases only advanced users or system administrators need this information. |

Introduction 1-5

Related Documentation

Several other documents are also helpful when using your printer:



Other Reference Sources

Don't forget that your application documentation, host operating system documentation, and network documentation all contain useful printing information.

Further information on QMS printers is available through the Internet. See appendix A, "QMS Customer Support" for details.

Manuals on the CD-ROMs

The manuals included on the *QMS* magicolor *2+ Print System Documentation* and *QMS Software Utilities* CD-ROMs are in Adobe Acrobat PDF format. We've also provided the Acrobat Reader and QuickTime programs on both CD-ROMs. The CD-ROM insert provides instructions on installing them.

About Adobe Acrobat Reader

Adobe Acrobat PDF-formatted manuals give you more flexibility and convenience than do hardcopy manuals when you have to access information. Here are some of the advantages PDF-formatted manuals provide:

- You can store the PDF manuals in a central location for access by anyone on the network.
- You can view and print the manuals on Windows, Macintosh, and UNIX platforms.
- You can view the manuals on web browsers using the Acrobat plug-in.
- You can view the manuals on-screen in different formats (side-by-side or two-up, one page at a time, scrolling two-up, article flow, and zooming capability up to 800%).
- You can conduct full-text searches through all of the manuals.
- You can watch QuickTime video clips on Windows and Macintosh platforms that enhance the text and illustrations for a number of commonly performed procedures. (When installing the Reader, be sure to select the option to install QuickTime.)

- You can print only the manual pages that you need.
- The PDF-formatted manuals have been enhanced for on-screen viewing and navigation. Throughout each manual are numerous hotlinks to cross-reference points. The table of contents and the index are fully hotlinked to their respective page references, and all World Wide Web addresses are linked to their respective home pages.

We hope you enjoy using the Acrobat software to access the information in your manuals. They'll never become dog-eared and yellowed or collect dust on some forgotten shelf with quick online access. Your PDF-formatted manuals will empower you to take full advantage of all the capabilities of your printer.

Using Adobe Acrobat Reader

When you use Acrobat to view your manuals, keep the following tips in mind for using some of the navigation features built into Acrobat and your manuals.

- You may view the document in three different styles: page only, with bookmarks, or with thumbnails. Try each to see which you like best. Viewing with bookmarks will enable you to use a quick table of contents to move around the document.
- The toolbar also gives you quick access to page navigation features. For example, you may click a button to advance (>) or reverse (<) one page, go to the start (|<) or end (>|) of the document, or use the history button (<<) to go to the previous pages you viewed. There are other buttons in the toolbar to change view or magnification of the document.
- As you browse through the document the open hand tool will sometimes turn into a pointing hand. You have discovered an embedded link in the manual. You will find these links in the table of contents, index, www addresses, and cross references. Click on the link to jump to a new location.
- You may discover a movie camera icon on Windows and Macintosh platforms. Click the icon to play a QuickTime video clip of the procedure described in the text.



Use the Acrobat Reader Online Help for a more complete explanation of these features.

Introduction 1-7

A Note on Media

All QMS manuals are also available in hard copy. In the US, contact QMS Supplies and Accessories at 1 (800) 523-2696 for purchase information. Elsewhere, refer to appendix A, "QMS Customer Support."

In addition, many applications, utilities, and printer drivers on the *QMS Software Utilities* CD-ROM are available on alternate media. Contact your local vendor for media availability and purchase information. You can also download many of these files via ftp from our World Wide Web Server at http://www.qms.com or our ftp resource at ftp.qms.com. Refer to appendix A, "QMS Customer Support," for sales and support locations and telephone numbers.

About This Manual

| 1 | Introduction | Provides an overview of this guide. |
|---|-------------------------------|--|
| 2 | About Your Printer | Provides further information about getting acquainted with your printer and introduces the parts of the printer control panel. |
| 3 | Consumables | Describes the media that's best suited for your printer; how to load paper, envelopes, labels, and transparencies; and how to replace the toner cartridges, OPC belt cartridge, fuser oil bottle, cleaning roller, and waste toner pack. |
| 4 | Advanced Printing Features | Explains how to collate output, print a status page, cancel a print job, and end a print job. |
| 5 | Color Printing | Describes how to print documents in color. |
| 6 | Printer Care | Describes how to handle and clean the printer. |

| 7 | CrownView Printer Web Page | Contains information on how to access and use the printer's web page. |
|---|-------------------------------------|--|
| 8 | Media Jams | Explains how to locate and clear media jams. |
| 9 | Troubleshooting Printer Problems | Lists printer status messages, outlines printer and print quality problems and solutions, and describes how to place a service call. |
| A | QMS Customer Support | Provides product sales and support telephone numbers, and describes how to communicate with QMS through the Internet. |
| В | Configuration Menu | Provides a view of the printer's configuration menu. |
| C | Repacking the Printer | Explains how to repack the printer in case you need to relocate or ship your printer after it's been installed. |
| | Index | |

Typographic Conventions

The following typographic conventions are used in this manual:

| Mixed-Case Courier | Text you type, and messages and information displayed on the screen |
|------------------------------|--|
| Mixed-Case Italic Courier | Variable text you type; replace the italicized word(s) with information specific to your printer or computer |
| UPPERCASE COURIER | Information displayed in the printer message window |
| lowercase bold | PostScript operators and DOS commands |
| lowercase italic | Variable information in text |
| UPPERCASE | File and utility names |

Introduction 1-9

About the Documentation

| | Press the Enter key (PC) or Return key (Macintosh). |
|----------|---|
| ۸ | Press and hold down the Ctrl key (PC). |
| → | In Adobe Acrobat PDF versions of the manual, click to play a QuickTime video clip of the procedure described in the text. |

- » **Note:** Notes contain tips, extra information, or important information that deserves emphasis or reiteration.
- ◆ Caution: Cautions present information that you need to know to avoid equipment damage, process failure, or extreme annoyance.
- **WARNING!** Warnings indicate the possibility of personal injury if a specific procedure is not performed exactly as described in the manual.

ACHTUNG! Bitte halten Sie sich exakt an die im Handbuch beschriebene Vorgehensweise, da sonst Verletzungsgefahr bestehen könnte.

What's Next?

Chapter 2, "About your Printer" provides information about getting acquainted with your printer and introduces the parts of the printer control panel.

*

2

About Your Printer

In This Chapter . . .

- "Introduction" on page 2-2
- "Getting Acquainted with Your Printer" on page 2-2
- "The Control Panel" on page 2-6
- "Message Window" on page 2-6
- "Control Panel Indicators" on page 2-7
- "Control Panel Keys" on page 2-8
- "What's Next?" on page 2-10

Introduction

This chapter provides information about getting acquainted with your printer and introduces the parts of the printer control panel. See the *Reference* manual for information about location, computer, and power requirements.

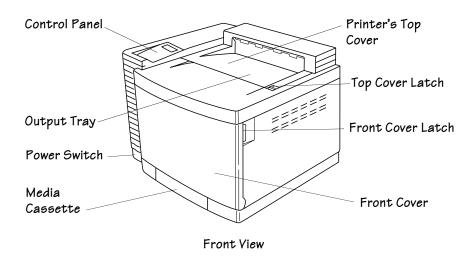
Getting Acquainted with Your Printer

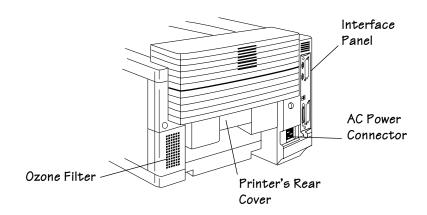
Be sure you have followed the steps for unpacking and setting up your printer listed in the *Installation Guide*.

Before operating the printer, you should become familiar with certain physical items, as shown on the following pages.

Note: If you're using the Acrobat PDF version of this manual, the parts of the printer are hotlinked—by clicking on that portion of the illustration, you will go to the section in the Installation Guide or Operation manual that pertains to that part.

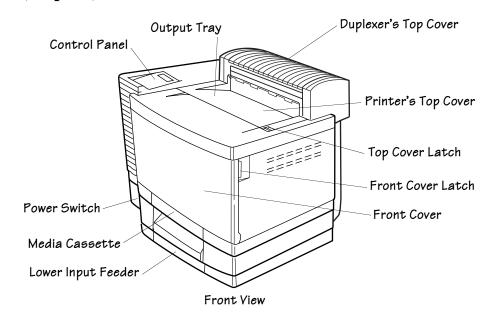
CXE, GXE Models

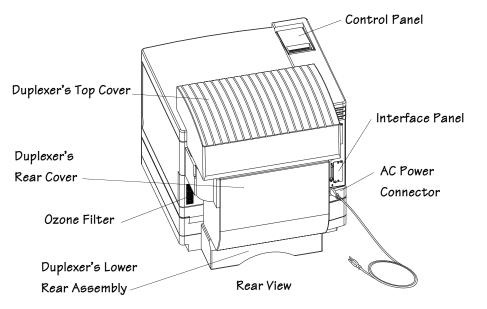




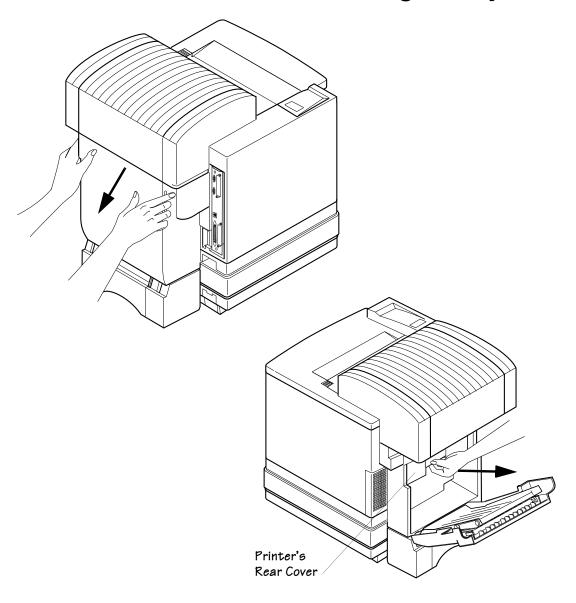
Rear View

EXD (Duplex) Model





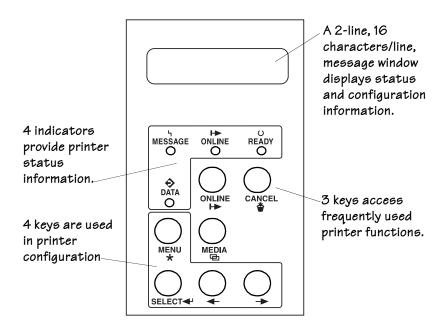
Access to the Printer's Rear Cover through the Duplexer



About Your Printer 2-5

The Control Panel

The control panel, located on the front of the printer, allows you to direct the printer's operation. In addition, it displays the current status of the printer, including any condition that needs your attention.



Message Window

The control panel message window provides status and configuration information. Status messages are listed in chapter 9, "Troubleshooting," of this manual. Printer configuration is explained in chapter 4, "Printer Configuration," of the *Reference* manual.

Setting the Message Window Language

| Menu | Administration/Miscellaneous/Keypad Language | |
|---------|---|--|
| Purpose | Change the message window language. | |
| Choices | English, French, Italian, German, Spanish, Portuguese | |
| Default | English | |
| Notes | The printer must be restarted for changes to this menu to take effect. You can either let the printer restart automatically after you save the change and exit from the configuration menu, or you can wait for the change to take effect the next time you manually turn on the printer. | |

Control Panel Indicators

Four indicators display printer status information.

| Indicator | Off | On |
|--------------|--|--|
| O READY | The printer is not ready to print. Note: When this indicator is blinking, the printer is warming up or is in Energy Saver mode. | The printer has finished warming up and is ready to print. |
| H► ONLINE | The printer is off line and not ready to accept data. | The printer is on line and ready to accept data. |
| ካ MESSAGE | No problem. | The printer requires operator attention (usually accompanied by a status message in the message window). |

| Indicator | Off | On |
|------------------|------------------------------------|---|
| ⇔ DATA | The printer is not receiving data. | The printer is receiving or processing data through one or more of its simultaneous interfaces (usually accompanied by a status message in the message window). |

Control Panel Keys

Online, Media, and Cancel Keys

These keys access frequently used printer functions.

| Key | Function | |
|------------|--|--|
| ONLINE | The Online key switches the printer between on-line to off-line status. | |
| ₩ | When off line, the printer continues printing until it has finished all jobs received, but it doesn't accept any new data. Although jobs continue to compile and print using the data already received, a job may be interrupted. | |
| | If a remote console has taken the printer off line, pressing the Online key on the control panel will not take effect until the console puts the printer back on line. | |
| | » Note: You must take the printer off line before using all other keys except the Cancel and Media keys. | |
| MEDIA 臣 | Use the Media key to set the media cassette to the correct type when switching between plain paper and transparencies (Automatic mode) or other types such as envelopes, glossy stock, labels, transfer media, and thick stock (Thick Stock mode). | |
| | Caution: Failure to set the Media key when switching media types results in unsatisfactory printing results. | |
| | » Note: The Media key on the Control Panel must be used in conjunction with setting Thick Stock in the driver (Paper tab, Media Type option) to enable the proper toner adherence. | |

| Key | Function |
|--------|--|
| CANCEL | The Cancel key allows you to cancel one or all print jobs. (See chapter 4, "Advanced Printing Features," in the <i>Operation</i> manual for complete information.) It also allows the user to end a job. |
| | If the printer is on line, press the Cancel key to cancel the page currently printing. To cancel the entire print job, use the printer driver. |
| | If you press the Cancel key by mistake, or if you decide not to cancel a print job after pressing this key, press the Menu key to "cancel" the Cancel key's function. |

Menu, Select, Previous, and Next Keys

The Menu, Select, Previous, and Next keys are used in printer configuration (explained in detail in chapter 4, "Printer Configuration," of the *Reference* manual). Before using any of these keys, press the Online key to take the printer off line.

| Key | Function |
|-----------|---|
| MENU ★ | The Menu key provides access to the configuration menu. First press the Online key to take the printer off line, and then press the Menu key to access the configuration menu. When you're changing the printer configuration, press this key to cancel a change (before pressing the Select keys), to return to a previous menu, or to return to a previous character when entering character information. |
| SELECT◀ | Press Select to access a menu or to choose a displayed menu option. |
| + | Press the Previous key to return to the previous selection or option for the current menu. When changing character information, use this key to return to the previous choice for the current input character. |
| → | Press the Next key to advance to the next selection or option in the current menu. When changing character information, use this key to advance to the next choice for the current input character. |

What's Next?

Now that you've become acquainted with your printer, refer to *Connecting Your QMS Print System* manual to connect your printer either directly to a computer or to a network.

The following chapter 3 in this manual, "Consumables," explains how to load and use consumables.



3

Consumables

In This Chapter . . .

- "Introduction" on page 3-2
- "Loading the Media Cassette" on page 3-2
- "Using Media Other Than Paper" on page 3-7
- "Using Toner Cartridges" on page 3-16
- "Replacing a Toner Cartridge" on page 3-18
- "Replacing the OPC Belt Cartridge" on page 3-21
- "Replacing the Fuser Oil Bottle and Oil Cleaning Roller" on page 3-24
- "What's Next?" on page 3-26

Consumables 3-1

Introduction

This chapter covers basic printer operation, such as loading paper, transparencies, labels, and envelopes; and how to replace a toner cartridge, the OPC belt cartridge, the fuser oil bottle, the cleaning roller, and the waste toner pack.

Loading the Media Cassette

This section discusses loading the media cassette with paper. If you're using another type of media, refer to "Using Media Other Than Paper" on page 3-7 for information.

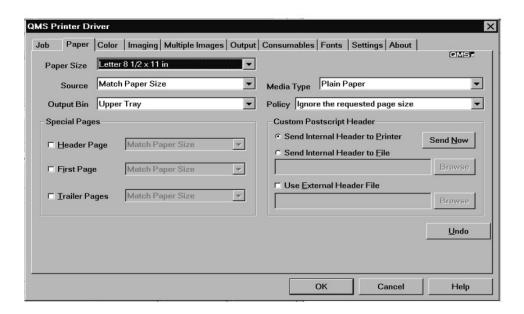
Paper Specifications

| Input | Cassette | Letter/A4 or universal | |
|------------|----------------------------|---|--|
| | Capacity | 250 sheets of 20 lb bond (75 g/m²) paper; capacity for other weights varies accordingly | |
| Туре | ■ Any stand such as | ard or recycled office paper suitable for plain-paper laser printers, | |
| | - Xerox 4 | 1024 | |
| | - Hamme | - Hammermill Laser Print | |
| | ■ Letterhead | ■ Letterhead/memo paper | |
| Weight | Long-grain p | Long-grain plain paper, 16–24 lb bond (60–90 g/m²) | |
| Media Type | Plain Paper | Plain Paper | |
| Print Mode | Automatic | Automatic | |
| Duplexing | Supported u chapter 4. | Supported up to 28 lb bond (105 g/m²). See "Duplex (2-Sided) Printing" in chapter 4. | |
| Notes | We do not re | commend using perforated or prepunched paper. | |
| | | You should test any stock thicker than 24 lb bond (90 g/m²) to ensure that its performance is acceptable. | |
| | | magicolor 2+, universal is the cassette size, not the paper size called on other QMS products. | |
| | Media Type i control panel | s set in the printer driver. Print Mode is set with the Media key in the . | |

Prepare the Printer

In the printer driver (Paper tab, Media Type option), select Plain Paper.

» **Note:** A printer driver is illustrated below. Refer to Connecting Your QMS Print System for more information about drivers.



Refer to "Configuring the Print Mode" on page 3-8 in this manual if you have set the printer for Thick Stock mode and wish to print on plain paper or transparency media.

See chapter 2, "Print Media," in the *Reference* manual for more information about media types, input source, and cassette location.

Consumables 3-3

Prepare the Paper

- 1 Take a stack of about 250 sheets ($\frac{1}{2}$ ream).
- » Note: Don't unwrap the paper above the printer as this might cause paper particles to fall into the printer.
 - 2 Holding the stack with one hand, fan the paper with the other.

This gets air through the sheets and prevents static buildup.

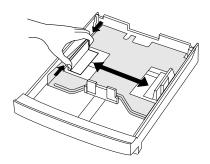
3 Take off the top and bottom sheets.

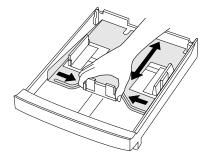
Residual glue buildup on these sheets may cause media jams.

Load the Cassette

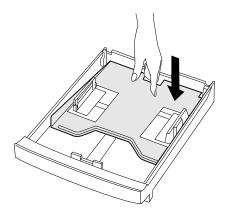
- 1 Remove the media cassette from the printer.
- 2 Adjust the media guides to fit the size paper you're loading.

Squeeze the retainers at the ends of the left width guide and/or the length guide, move the guide to the appropriate location (media sizes are listed on the cassette), and release the retainers.





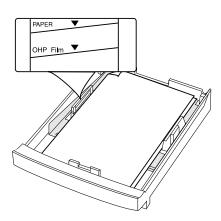
3 Push the media pressure plate down to lock it in position.



4 Load the paper.

A fill limit mark is provided on the inside left side of the cassette. The media cassette holds 250 sheets of 20 lb bond (75 g/m²) paper. (Paper is packed in reams of 500 sheets.) Do not overfill the cassette.

The printing side of the paper should face up. An arrow on the paper package label indicates the face-up side of the paper.



5 Slide the media cassette back into the printer.

◆ Caution: After 200 1-sided pages (or 100 2-sided pages) of a continuous print run of plain paper, the magicolor 2+ automatically pauses for 3 minutes to cool down the engine. This occurs for monochrome or color printing. After this initial cooldown pause, the printer automatically resumes its printing. From that point forward while doing continuous printing, the 3-minute cooldown pause occurs every 50 pages until the continuous printing stops.

After an extended idle period, this 50-page limit automatically resets to 200 pages. This process is provided to maintain the rated duty cycle of the printer and to ensure reliable printer operation.

Using Letterhead and Memo Media

| Formatting | Format letterhead or memo data within your application. Try printing your data on a plain sheet of paper first to check placement. | | | |
|------------|--|--|--|--|
| Input | Cassette | Cassette Letter/A4 or universal | | |
| | Capacity | Capacity Up to 250 sheets, depending on the thickness of the media | | |
| Туре | Refer to "Par | Refer to "Paper Specifications" on page 3-2. | | |
| Weight | Refer to "Paper Specifications" on page 3-2. | | | |
| Media Type | Plain Paper | | | |
| Print Mode | Automatic | | | |
| Notes | Check your application documentation for other information about printing on letterhead and memo media. | | | |

Loading and Printing Letterhead and Memo Media

- 1 In the printer driver (Paper tab, Media Type option), select Plain Paper.
- 2 On the control panel, press the Media key to select printing in the Automatic mode.
- 3 Remove the media cassette from the printer (and remove any media in the cassette).
- 4 Load the new media.

» Note: Load the media printing-side up with the top of the media (the letterhead or memo information) toward the back of the cassette.



If you have an EXD model and wish print on both sides, load the media printing-side down with the top of the media (the letterhead or memo information) toward the front of the cassette.

5 Slide the media cassette back into the printer.

Setting the Letterhead Option—EXD Model Only

On the EXD model, in the Administration/Engine/Letterhead menu, there is an option that will allow you to put both simplex and duplex jobs on letterhead paper from the same inputbin (cassette) without having to sort the pages manually.

The pages must be loaded printing-side down in the input bin with the top of the media (the letterhead or memo information) toward the front of the cassette.

» Note: You may notice a decrease in the printing speed depending on the mix of simplex and duplex pages.

Using Media Other Than Paper

◆ Caution: Although the QMS magicolor 2+ was designed for occasional printing on a wide range of media types, it is not intended to print exclusively on a single media type except plain paper. Continuous printing on media other than plain paper (such as envelopes, glossy stock, labels, thick stock, transfer media, or transparencies) may adversely affect print quality or reduce engine life.

• Caution: For media other than standard plain paper or transparencies, both the driver (Paper tab, Media Type option) and the Media key on the Control Panel (for the Print Mode) need to be selected to tell the printer that thick stock is loaded. It is important to use the Media key to set the tray to the appropriate print mode in order to obtain optimum printing results and to enable the toner to adhere better. It is also important to reset the Media key and the printer driver when you are switching back to plain paper or transparencies.

Configuring the Print Mode

At the printer, configure the inputbin (cassette) for the appropriate print mode.

For example for envelopes, the settings would be as follows:

| Printer Driver | Printer |
|-------------------------|-------------------------------------|
| Media Type: Thick Stock | Inputbin: Media for Upper Bin |
| | Print Mode: For Upper Bin*Automatic |

1 Press the Media key on the control panel.

The printer goes off line, and the message window displays the inputbin message

| MEDIA | | or | MED] | ĹΑ | | | |
|-------|---------|----|------|----|-----|----------|-----|
| | FOR UPP | ER | BIN | | FOR | OPTIONAL | BIN |

Press the Next key (->) if you need to change the specified inputbin.

2 Press the Select key (SELECT →) when the message window displays the inputbin you want.

The message window then displays the print mode message

| FOR UPPER BIN | or | FOR UPPER BIN |
|---------------|----|---------------|
| *AUTOMATIC | | THICK STOCK |

» Note: The asterisk denotes the default setting.

Press the Next key if you need to change the print mode.

- 3 Press the Select key when the message window displays the specified print mode.
- 4 Press the Online key.

The message window displays the message

SAVE CHANGES? *NO

5 Press the Next key to select YES.

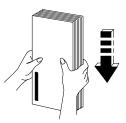
The printer goes on line and is ready to print.

Using Envelopes

| Formatting | Your printer receives the instructions to print on envelopes from your application. | | |
|------------|--|---|--|
| | layers of p | ne front side only. Some parts of the envelope consist of three paper—the front, back, and flap. Anything printed in these layons may be lost or faded. | |
| | See your application documentation for specific information on printing envelopes. | | |
| Input | Cassette | Letter/A4 or universal | |
| | Location | Upper input feeder only | |
| | Capacity | Up to 15, depending on the thickness of the envelopes | |
| Туре | | non office envelopes with diagonal joints, sharp folds and edges, ary gummed flaps, such as | |
| | Commercial #10: Great WhiteInternational DL: Great White | | |
| | | | |
| Media Type | Thick Stock | | |
| Print Mode | Thick Stock | Thick Stock | |
| Notes | You can print envelopes from either the letter/A4 or the universal cassette, but the media cassette must be located in the upper input feeder position only. | | |
| | ■ Use enve | lopes approved for laser printing. | |
| | ■ You can p | rint only on the address side of the envelope. | |
| | ■ Envelopes should be dry. Do not preseal envelopes. | | |

Loading and Printing Envelopes

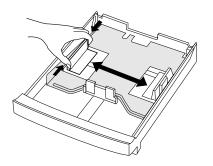
- 1 In the printer driver (Paper tab, Media Type option), select Thick Stock.
- 2 On the control panel, press the Media key to select printing on thick stock.
- 3 Place the envelopes on a flat surface, and flatten them by pressing down the corners.
- 4 Flex the envelope stack (including the edges) to remove any stiffness.
- 5 Correct any dog-eared corners, and then tap the envelopes on a flat surface to align them.

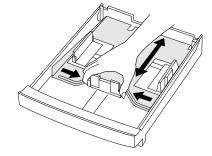


- 6 Remove the media cassette from the printer (and remove any media in the cassette).
- 7 Adjust the media guides to the length and width of the envelopes.

Squeeze the retainers at the ends of the left width guide and/or the length guide, move the guide to the appropriate location (media sizes are listed on the cassette), and release the retainers.

» **Note:** Make sure the guides are snug enough to keep the envelopes straight, but not so tight that they buckle the envelopes.





- 8 Place the envelope stack into the cassette with the printing-side up.
- » Note: Check your application documentation to determine if the flap should be placed on the left or on the right. You can also print a single envelope to check the orientation before printing multiple copies.
 - 9 Slide the media cassette back into the printer.
 - The media cassette must be located in the upper input feeder position.
 - 10 Open the flap of each envelope immediately (before it cools) after the envelope is delivered to the output tray.
- Note: Because the envelopes pass through heated rollers, the gummed area on the flaps may seal. Using envelopes with emulsion-based glue avoids this problem.

Using Glossy Stock

| Formatting | | Format the information to be printed on the glossy (book) stock within your application. Try printing your data on a plain sheet of paper first to check placement. | | |
|------------|--------------|---|--|--|
| Input | Cassette | Letter/A4 or universal | | |
| | Capacity | Up to 50 sheets, depending on the thickness of the media | | |
| Туре | ■ We recom | ■ We recommend | | |
| | - Warrer | Warren Spectratech Coated Lustro Laser Gloss | | |
| Weight | 80 lb book (| 80 lb book (118 g/m²) | | |
| Media Type | Thick Stock | Thick Stock | | |
| Print Mode | Thick Stock | Thick Stock | | |

Loading and Printing Glossy Stock

- 1 In the printer driver (Paper tab, Media Type option), select Thick Stock.
- 2 On the control panel, press the Media key to select printing on thick stock.
- 3 Remove the media cassette from the printer (and remove any media in the cassette).

Using Media Other Than Paper

- 4 Load the new media.
- 5 Slide the media cassette back into the printer.

Using Labels

| Formatting | Format label data within your application. Try printing your data on a plain sheet of paper first to check placement. | | | |
|------------|---|--|--|--|
| Input | Cassette Letter/A4 or universal | | | |
| | Capacity | Up to 50 sheets, depending on the thickness of the labels | | |
| Туре | ■ Use only | labels recommended for laser printers, such as | | |
| | - Avery | 5260 | | |
| Weight | 24–42 lb (90 |)–157 g/m²) | | |
| Media Type | Thick Stock | | | |
| Print Mode | Thick Stock | | | |
| Notes | Avoid using labels with exposed adhesive; it may stick to the toner car- tridge or the fixing roller, causing labels to peel off and media jams to occur. | | | |
| | ■ Use only labels recommended for laser printers, such as Avery 5260 | | | |
| | ■ Adhesive label stock in sizes letter or A4 | | | |
| | ■ A label consists of a face sheet (the printing surface), adhesive, and a carrier sheet | | | |
| | The face sheet must follow to the plain paper specification listed on "Paper Specifications" on page 3-2. | | | |
| | The face sheet surface must cover the entire carrier sheet, and no adhesive should come through on the surface. | | | |
| | ■ The adhesive and carrier sheet must withstand the fusing temperature (392° F/200° C). | | | |
| | ■ Check yo labels. | ur application documentation for other information on printing | | |

Loading and Printing Labels

- 1 In the printer driver (Paper tab, Media Type option), select Thick Stock.
- 2 On the control panel, press the Media key to select printing on thick stock.
- 3 Remove the media cassette from the printer (and remove any media in the cassette).
- 4 Load the new media.
- » **Note:** If your label stock has a top-of-page, place the top-of-page toward the rear of the printer.
 - 5 Slide the media cassette back into the printer.
 - 6 In the Operator Control/Media/For Upper Bin menu, select Thick Stock.

Using Thick Stock

| Formatting | Format the information to be printed on the thick stock within your application. Try printing your data on a plain sheet of paper first to check placement. | | |
|------------|---|---|--|
| Input | Cassette Letter/A4 or universal | | |
| | Capacity | Up to 50 sheets, depending on the thickness of the media | |
| Туре | ■ Thick stock, such as | | |
| | - Warren | Spectratech Index | |
| | - Hamme | ermill ColorCopyCover | |
| | Weyerhaeuser Cover/Card | | |
| Weight | Long-grain thick stock, up to 43 lb bond (163 g/m²)/60 lb cover (162 g/m²)/90 lb index (163 g/m²) | | |
| Media Type | Thick Stock | | |
| Print Mode | Thick Stock | | |
| Notes | You should test the number of sheets of thick stock a media cassette can hold to ensure that its performance is acceptable. Do not exceed the fill level on the inside left side of the cassette. | | |
| | | o reset the Media key and the printer driver when switching from plain paper or transparencies. | |

Using Media Other Than Paper

- 1 In the printer driver (Paper tab, Media type option), select Thick Stock.
- 2 On the control panel, press the Media key to select printing on thick stock.
- 3 Remove the media cassette from the printer (and remove any media in the cassette).
- ◆ Caution: Do not mix thick stock with any other media in the same cassette, as this will cause printer jamming.
 - 4 Load the new media.
 - 5 Slide the media cassette back into the printer.

Using Transfer Media

| Formatting | Format the information to be printed on the transfer media within your application. Try printing your data on a plain sheet of paper first to check placement. | | | |
|------------|--|--|--|--|
| Input | Cassette | Letter/A4 or universal | | |
| | Capacity | Up to 50 sheets, depending on the thickness of the transfer media | | |
| Туре | ■ We recor | ■ We recommend | | |
| | - Conde | Conde Systems LaserMprints | | |
| Weight | Varies. Do r | Varies. Do not exceed the limits for thick stock, up to 43 lb bond (163 g/m²). | | |
| Media Type | Thick Stock | Thick Stock | | |
| Print Mode | Thick Stock | | | |

Loading and Printing Transfer Media

- 1 In the printer driver (Paper tab, Media Type option), select Thick Stock.
- 2 On the control panel, press the Media key to select printing on thick stock.
- 3 Remove the media cassette from the printer (and remove any media in the cassette).
- 4 Load the new media.
- 5 Reinsert the media cassette in the printer.

Using Transparencies

| Formatting | | ormation to be printed on the transparencies within your application. ur data on a plain sheet of paper first to check placement. | | |
|------------|--|--|--|--|
| Input | Cassette Letter/A4 or universal | | | |
| | Capacity | Up to 50 sheets, depending on the thickness of the transparencies | | |
| | | » Note: If you have problems feeding 50 sheets, try loading only 5– 10 sheets at a time. Loading a large number of transparencies at a time may cause static buildup, thus causing feeding problems. | | |
| Туре | ■ Use any transparencies (also known as OHP film) that meet normal photocopier standards and that can withstand the fusing temperature (392° F/200° C). We recommend | | | |
| | — Xerox 3R3117 | | | |
| | — 3M CG3700 | | | |
| | — 3M CG3710 | | | |
| Weight | 24-41.75 lb (90-157 g/m²) | | | |
| Media Type | Transparency | | | |
| Print Mode | Automatic | | | |
| Notes | ■ Use only transparency sizes letter and A4 | | | |
| | path. If ther | edia path clean. Transparencies are especially sensitive to a dirty media e are shadows on either the top or the bottom of the sheets, refer to Printer Care," for instructions on how to clean the printer. | | |
| | ■ Check your transparence | application documentation for other information about printing on cies. | | |

Loading and Printing Transparencies

- 1 In the printer driver (Paper tab, Media Type option), select Transparency.
- 2 On the control panel, confirm that the Media key is set on Automatic.
- » **Note:** Transparencies are automatically "sensed" in the Automatic mode. Do not select Thick Stock, even if the transparencies are thicker than 20 lb bond (75 g/m²).

- 3 Remove the media cassette from the printer (and remove any media in the cassette).
- Caution: Do not leave paper in the cassette, or the printer will not automatically sense that transparencies are present.
 - 4 Load the new media.
 - 5 Slide the media cassette back into the printer.

Using Toner Cartridges



Characters and images are created in your laser printer through a process that applies toner (made of carbon particles) to the page in the printer's fusing unit. When an image is formed, a positive electrical charge is applied to transfer the image to the page. The toner cartridge contains the toner and the photosensitive drum (which functions like photographic film) needed to operate the laser printer.

Toner Cartridge Life

A toner cartridge contains enough toner to print the following number of letter/A4-size pages:

| Color | Rated life @ normal 5% page coverage |
|---------|--------------------------------------|
| Black | 10,000 pages |
| Yellow | 6,000 pages |
| Magenta | 6,000 pages |
| Cyan | 6,000 pages |

» **Note:** Black starter toner cartridges at normal 5% coverage will print 5,000 letter/ A4-size pages*, while the yellow, magenta, and cyan will each print 3,000 pages.

When toner runs low in a cartridge, x Toner Low displays in the message window. It's your option whether to continue printing; usually, parts of the page print lighter.

When toner is low, it's sometimes helpful to take the cartridge out of the printer and redistribute the toner by gently rocking the cartridge horizontally side to side (as you do for a new cartridge) five or six times. Then reinstall the cartridge. If the x Toner Low message remains in the message window after you redistribute the toner, you must replace the toner cartridge.

The printer stops 330 pages after detecting that toner in a cartridge is low. x toner Empty displays in the message window.

Refilled Toner Cartridges

Refilled toner cartridges may produce variations in toner quality and reliability and may reduce the print quality of your documents. Use of refilled ro remanufactured toner cartridges will void your warranty.

Ordering Toner Cartridges

Choosing the right consumables for your QMS *magicolor* 2+ printer will not only increase its reliability and performance, but also minimize the risk of damage. Only QMS toner cartridges are designed to meet the exact specifications of your QMS printer, guaranteeing maximum performance, efficiency, and long life.

In the US, call 1 (800) 523-2696 for information on ordering toner cartridges and other consumables. In other countries, see appendix A, "QMS Customer Support" for the telephone number of the QMS office nearest you.

Consumable life is expressed in simplex pages (1 face). A duplex page (2 faces) is equivalent to two simplex pages.

^{*·} A **plane** is a single pass of the OPC belt (one toner color). For example, a one-color, single-sided (simplex) print job makes one pass (one plane), and a two-color print job makes two passes (two planes). A single-sided color **page** (also called a **face**) consists of four passes (or planes) of the OPC belt, since most color print jobs use all four toner colors. A two-sided (also known as duplex or two-faced) color page may consist of up to eight passes of the OPC belt, since most color print jobs use all four toner colors.

Toner Cartridge Storage

- Keep toner cartridges in their packaging until you're ready to install them.
- Store toner cartridges in a cool, dry location away from sunlight (due to heat). The maximum storage temperature is 95° F (35° C) and the maximum storage humidity is 80% without condensation.
- Keep toner cartridges level during storage. Do not stand or store cartridge on their ends or turn upside down; the toner inside the cartridges may become caked or unequally distributed.
- Keep toner cartridges away from salty air environments and corrosive gases such as aerosols.
- Keep toner cartridges away from disk drives and floppy disks. The magnets in the cartridge can damage stored data.

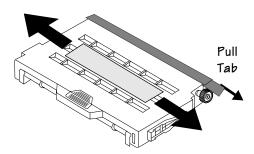
Replacing a Toner Cartridge T

Your printer uses four toner cartridges: black, yellow, magenta, and cyan.

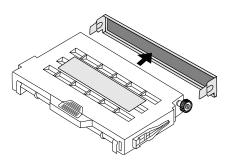
- 1 Open the printer's front cover.
- 2 Remove and discard the empty toner cartridge.
- ◆ Caution: Dispose the used toner cartridge according to your local regulations. Do not dispose of it by burning.
 - 3 Remove the toner cartridge from its shipping carton.
- ◆ Caution: Do not hold the toner cartridge vertically.

4 Distribute the toner in the cartridge.

Holding the cartridge with both hands, gently rock it from horizontally side-to-side five or six times.



- 5 Pull the tab to remove the tape.
- 6 Remove the protective cover.

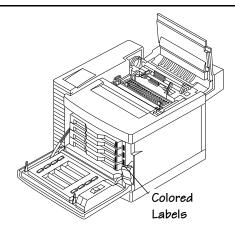


◆ Caution: Each toner cartridge has a colored label that corresponds to a colored label to the right of the cartridge slots. Always install the toner cartridge in the slot with a label of the same color. If a toner cartridge doesn't slide in easily, don't force it.

7 Install the toner cartridge.

Align the toner cartridge with the cartridge guides, and gently push the cartridge into the printer until you begin to feel resistance. Then pull the cartridge back approximately 1/4 inch.

◆ Caution: Do not push the toner cartridge in until you hear a click. If you hear a click, you've locked it into place against the OPC belt cartridge and your prints may be smudged.



- **Note:** While the cartridges may appear not to be fully inserted, gently closing the front cover will guide them to their proper operating position.
 - 8 Close the printer's front cover.
 - 9 In the Operator Control/Consumables/Item Replaced/x Toner menu choose Yes to reset the consumables usage monitoring system.
- **Note:** When you replace a toner cartridge after an x toner Empty message displays in the message window, the engine automatically recovers.
 - To access consumables usage information, use the Operator Control/Consumables/Print Statistics menu or the CrownView printer web page.

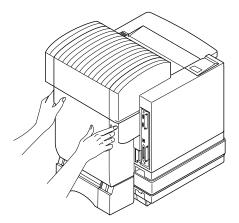
Replacing the OPC Belt Cartridge

◆ Caution: The OPC belt is extremely sensitive to bright light and direct sunlight. Always leave it in its protective bag until you're ready to install it. Any exposure to light should be limited to less than two minutes, or permanent damage could result. If you suspect a belt is damaged due to exposure to light, put the belt in a dark place to recover. Depending on the amount of exposure, recovery may take up to two hours. Recovery time is dependent on the amount of exposure sustained, and recovery is not guaranteed.

Also, handle the cartridge carefully. The belt is also extremely sensitive to hand oils and scratches, both of which reduce print quality.

- 1 If you have an EXD model, open the duplexer's rear cover.
- ◆ Caution: Always open the duplexer's rear cover before opening the top of the printer. Forced opening of the printer's top cover first may damage the unit.

If not, skip to step 2.

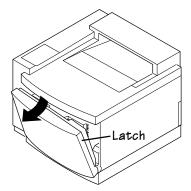


Replacing the OPC Belt Cartridge

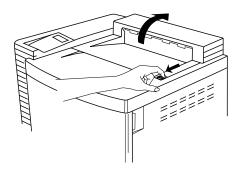
2 If it's not already open, open the printer's front cover.

Squeeze the latch near the upper-right corner of the cover.

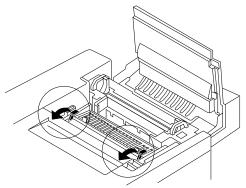
Note: The illustrations for steps 2 through 8 show the printer without the duplexer. However, the instructions are the same for all models.



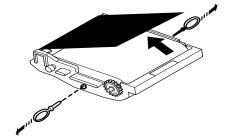
- ◆ Caution: This is necessary as it pulls the toner cartridges forward slightly to make room for the OPC belt cartridge. You could damage the OPC belt if you don't do this.
 - 3 Pull the latch to release the top cover, and then open the printer's top cover.



4 Rotate up the two green lock levers (one on each side of the OPC belt cartridge opening) to prepare the opening for the cartridge.

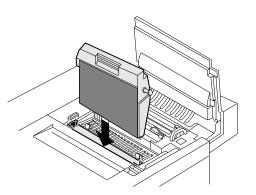


- 5 Remove the protective sheet from the cartridge, and then pull out the two orange tension-release pins (one on each side of the cartridge).
- » Note: Save the spacers in case you need to repack the printer for relocation or shipping later.

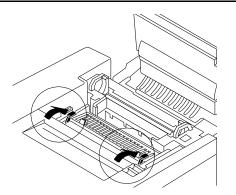


6 Holding the cartridge above the printer, align the guide pins on the cartridge with the guide slots in the green lock levers.

The gear on the cartridge goes to the right, and the green surface of the cartridge faces you.



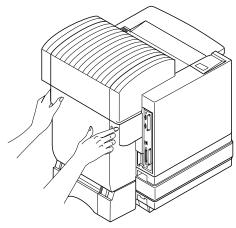
- 7 Gently guide the cartridge into the printer.
- Caution: The cartridge should slide easily into the printer. Don't force it.
 - 8 Rotate the two green lock levers to secure the OPC belt cartridge in the printer.
 - 9 Close the printer's front and top covers.
 - 10 If you have an EXD model, close the duplexer's rear cover.



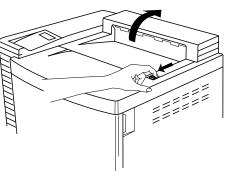
Replacing the Fuser Oil Bottle and Oil Cleaning Roller

1 If you have an EXD model, open the duplexer's rear cover.

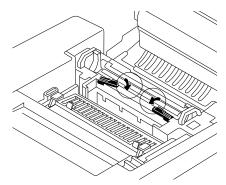
If not, skip to step 2.



- 2 Pull the latch to release the top cover, and then open the printer's top cover.
- Note: The illustrations for steps 2 through 7 show the printer without the duplexer. However, the instructions are the same for all models.



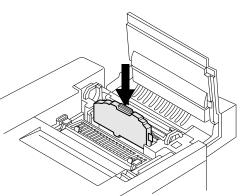
3 Open the two green oil cleaning roller lock levers by rotating them toward you.



4 Lower the oil bottle into its slot.

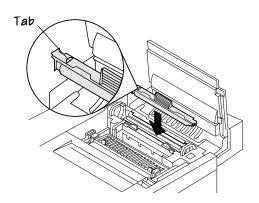
The tab on the side of the bottle must be on the right.

» Note: Because the first oil bottle must prime the printer, it has less than the normal 12,000-page (1-sided) life expectancy.

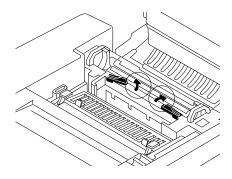


5 Install the oil cleaning roller in its slot.

The tab on the top of the oil cleaning roller must be on the left.



- 6 Close the two green lock levers by rotating them away from you.
- 7 Close the printer's top and front covers.
- 8 If you have an EXD model, close the duplexer's rear cover.



What's Next?

Chapter 4, "Advanced Printing Features," explains how to collate output, print a status page, cancel a print job, and end a print job.

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4

Advanced Printing Features

In This Chapter . . .

- "Introduction" on page 4-2
- "High-Resolution Printing" on page 4-2
- "Printing PDF Files" on page 4-5
- "Cassette Chaining" on page 4-6
- "Collating Output" on page 4-7
- "Duplex (2-Sided) Printing" on page 4-10
- "Printing on Standard and Custom Media Sizes" on page 4-11
- "Working with Status Pages" on page 4-11

Introduction

This chapter describes changing print resolution, chaining paper cassettes, collating output, printing a status page, cancelling a print job, and ending a print job.

High-Resolution Printing

QMS technology provides a print resolution for almost every application or budget. The QMS *magicolor* 2+ supports each of the following resolutions at up to rated engine speed:

| 300x300 dpi | Built into all <i>magicolor</i> 2+ Print Systems, this resolution has the fastest processing time for producing draft-quality output. 300x300 dpi resolution is also required by some printer emulations. |
|--------------|---|
| 600x600 dpi | The standard resolution in the <i>magicolor 2+</i> is also the standard resolution for business documents. 600x600 dpi resolution provides excellent print quality for most business applications, such as letters, proposals, and presentations. With 600 dpi in both horizontal and vertical directions, it also provides the best quality line drawings for engineering applications. |
| 1200x600 dpi | For improved halftone quality in graphics and images, 1200x600 dpi resolution is available for all media sizes on the <i>magicolor</i> 2+ GXE and EXD. The <i>magicolor</i> 2+ CXE is also capable of producing 1200x600 dpi resolution through the installation of additional memory. |
| 2400x600 dpi | For graphic arts and desktop publishing applications, where the best quality graphics and photorealistic images are required, the <i>magicolor 2+</i> GXE and EXD Print Systems come standard with 2400x600 dpi resolution for many media sizes. The <i>magicolor 2+</i> CXE Print System is also capable of producing 2400x600 dpi resolution through the installation of additional memory. |

How Much Memory Do You Need?

» Note: If a certain resolution is chosen and the minimum amount of memory is not installed in the printer, the file is printed using the next lower resolution that can handle the job. For example, if you attempt to print a 4-color image at 2400x600 dpi resolution on legal media, but the printer has only 32 MB of RAM instead of the required 88 MB minimum, the file prints at 600x600 dpi.

Minimum System Memory Requirements—Simplex Only CXE, GXE, EXD

| Media Size | 300x300/600x600 1200x600 | | 2400x600 | | | |
|------------|--------------------------|---------|----------|---------|-------|---------|
| | Mono | 4-Color | Mono | 4-Color | Mono | 4-Color |
| Letter/A4 | 32 MB | 32 MB | 32 MB | 44 MB* | 32 MB | 76 MB* |
| Legal | 32 MB | 32 MB | 32 MB | 52 MB* | 32 MB | 92 MB** |

[»] **Note:** These values are for a printer without a hard disk. For a printer with a hard disk installed and disk swapping enabled, add an additional 8 MB of RAM for each media size.

Minimum System Memory Requirements—Duplex EXD

| Media | 300x300 | | 600x600 | | 1200x600 | | 2400x600 | |
|---------------|---------|---------|---------|---------|----------|---------|----------|---------|
| Size | Mono | 4-Color | Mono | 4-Color | Mono | 4-Color | Mono | 4-Color |
| Letter/ A4 | 32 MB | 32 MB | 32 MB | 44 MB | 32 MB | 76 MB | 44 MB | 140 MB |
| Legal | 32 MB | 32 MB | 32 MB | 52 MB | 32 MB | 96 MB | 52 MB | 172 MB |

[»] Note: For a printer with a hard disk installed and disk swapping enabled, add an additional 8 MB of RAM for each media size.

Framebuffer Requirements—Duplex at Speed—EXD

| Media Size | 600x600 | | 1200x600 | | 2400x600 | |
|---------------|---------|---------|----------|---------|----------|---------|
| | Mono | 4-Color | Mono | 4-Color | Mono | 4-Color |
| Letter/ A4 | 32 MB | 60 MB | 36 MB | 108 MB | 60 MB | 204 MB |
| Legal | 36 MB | 72 MB | 42 MB | 132 MB | 72 MB | 252 MB |

^{*} Additional memory required on a magicolor 2+ CXE

^{**}Additional memory required on a magicolor 2+ CXE and magicolor 2+ GXE

High-Resolution Printing

You may also need additional memory (SIMMs) for the following:

- To print complex graphics or complex PostScript documents
- For increased collation performance
- For increased spooling performance

Setting the Default Resolution

| Menu | Administration/Engine/Def Resolution |
|---------|--|
| | · · |
| Choices | 300 dpi—300x300 dpi resolution |
| | 600 dpi—600x600 dpi resolution |
| | 1200 dpi—1200x600 dpi resolution |
| | 2400 dpi—2400x600 dpi resolution |
| Default | 600 dpi, 1200 dpi, or 2400 dpi—your printer's default is the highest resolution available for the amount of RAM installed in the printer (see "Minimum System Memory Requirements—Simplex Only CXE, GXE, EXD" on page 4-3 and "Minimum System Memory Requirements—Duplex EXD" on page 4-3 for more information). |
| Notes | Whenever possible, set the print resolution through your application. If the print resolution can't be set through the application, you can set it through the configuration menu, the printer driver, or QMS Document Option Commands (DOCs). |
| | If you want the printer to use a lower default resolution when you restore defaults, set this option to your choice (and make any other necessary configuration settings), and then use the Administration/Miscellaneous/ Save Defaults menu to save your custom defaults. See "Working with Custom Configurations" in chapter 4, "Printer Configuration," of the <i>Reference</i> manual for more information. |
| | In addition, after you lower the default resolution, you should reconfigure the printer memory (Administration/Memory/Quick Config menu) to distribute it better for that particular resolution. For example, if you set the default resolution to 600 dpi when your printer has enough memory to print at 2400 dpi, the frame buffer remains configured for 2400 dpi, which means that printer memory that could be better used somewhere else is being wasted. |

Printing PDF Files

Your *magicolor* 2+ has the ability to print PDF files directly just as it does for PostScript and PCL files. This can be a time-saving feature. Direct printing removes the need to open the file in an application, such as Acrobat Reader, then print the file via a Post-Script or PCL driver. Your QMS *magicolor* 2+ supports PDF version 1.2 and below.

The PDF file can be sent to the printer using any method (lpr, ftp, etc.) that is normally used to print PostScript or PCL files.

Adjusting Memory Clients for PDF Printing

The unique structure of PDF files requires that you make some adjustments to your printer's default memory clients. All PDF files contain information at the end of the files that is needed to correctly format them in the printer. Because of this, the entire file must be spooled into the printer before it can be interpreted. In order to spool the entire job into the printer, the Host Input (Spool) memory client may need to be adjusted.

To determine the required size for the Host Input memory client, you first need to estimate the maximum file size of the PDF files that you will be printing. Once you have determined the maximum file size, add 10% to this number and this becomes your required Host Input memory size. In the event that you experience problems, you may want to increase the Host Input memory size further.

The maximum size of PDF files which may be printed on the *magicolor* 2+ is determined by the amount of installed memory, including RAM and an internal hard disk. Adding additional RAM memory or an internal hard disk will allow you to print larger PDF files. However, we recommend an internal hard disk for optimum performance when printing large PDF files.

Refer to "Memory," in chapter 5 of the *Reference* manual on how to adjust the memory clients.

Print Preformatted Files Using CrownView

Your magicolor 2+ also provides a utility via the CrownView web page for printing PDF files directly from the host using the browser. Users will be presented with a Browse button that, when selected, will enable a file chooser on the host. Users then select the file that they want to send to the printer, and the file is transferred and printed.

Cassette Chaining

This file must be in a format that can be interpreted by the printer. This requires Internet Explorer 4.x or Netscape 3.x or higher.

» Note: The Browse button will not be presented on earlier browsers.

Once the Browse button is selected, the normal file chooser for the given host platform will be opened. The user then selects the file that he wants to transfer, and selects OK. To transfer the file, the user selects the Send to File button to transfer and print the data. The text can be changed.

Refer to chapter 7, "CrownView Printer Web Page," for more information on how to utilize this feature.

Cassette Chaining

If you have an optional lower input feeder, you may choose to have the printer automatically draw media from the other cassette (inputbin) when the current cassette empties. This is called cassette chaining, and it provides a total media input capacity of 500 sheets.

Enabling/Disabling Cassette Chaining

There are several ways to enable/disable cassette chaining:

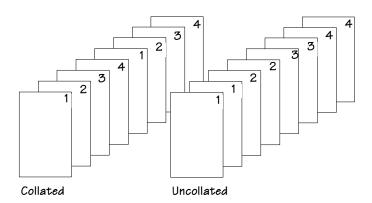
- Use your application. (Check the documentation to see if your application includes a specific procedure for using a dual-cassette printer.)
- Select an alternate cassette for chaining in the QMS Advanced Level 2 Windows printer driver.
- On a network, use CrownAdmin to select the media cassettes and/or the media source.
- Using CrownView via the CrownView operator control screen.
- Configure the printer through the configuration menu.

Using the Configuration Menu

| Menu | Operator Control/Chain Inputbins | |
|---------|---|--|
| Choices | On—Switches to the next cassette with the same size and type of media when the default cassette is empty. | |
| | Off—Doesn't switch cassettes; uses only the default cassette. | |
| Default | On | |
| Notes | Use the Operator Control/Inputbin menu to set the default inputbin. | |

Collating Output

You can print multiple copies of documents either as complete sets in numeric order (collated) or as separate sheets. The following figure shows collated and uncollated stacking for two copies of a four-page file.



The main advantage of collation is convenience and the time savings derived from not having to separate and sort individual copies of a document. Each copy of the document exists as a whole unless chunk collation has occurred.

Enabling/Disabling Collation

There are several ways to enable/disable collation:

 Use your application. (Check the documentation to see if your application includes a specific procedure for collating pages.)

Collating Output

- Select collation in the driver or PPD.
- On a network, use CrownAdmin to select collation.
- Using CrownView via the CrownView operator control screen.
- Configure the printer through the configuration menu.

Using the Configuration Menu

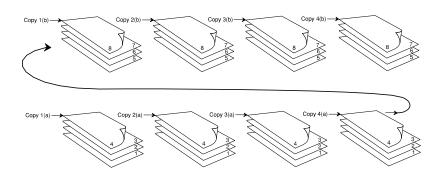
| Menu | Operator Control/Collation | | |
|---------|----------------------------|--|--|
| Choices | On, Off | | |
| Default | Off | | |

Working with Chunk Collation

For a multiple copy document with collation On, there must be enough display list memory to hold the display list blocks for all pages in the collation range. (For more information on Display List blocks, see "Display List" in chapter 5, "Additional Technical Information," in the *Reference* manual.) If there's not enough memory, then a collation boundary is forced after the last compiled page of the collation range.

Chunk Collation

This mechanism of introducing a forced boundary—or breaking a document down into several smaller, more manageable sets—is known as chunk collation. For example, in the following illustration, copies "a" and "b" of each set must be manually combined to create one collated document. The order of printing is copy 1(a), copy 2(a), copy 3(a), copy 4(a), copy 1(b), copy 2(b), copy 3(b), and copy 4(b).



Improving Collation Performance

To avoid chunk collation, your printer must have sufficient memory to store an entire document before printing begins. Of course, this always depends on the complexity of your print job versus the amount of available memory in your printer. To improve collation, increase the Display List memory client or reduce the resolution of the print job.

To improve collation performance, which allows you to collate longer and more complex print jobs on your printer, you can do one of the following:

- Add more printer memory, which automatically increases the display list client's memory settings.
- Take any memory not being used by other clients, and add it to the Administration/ Memory/Manual Config K Mem Display memory setting.
- ◆ Caution: Use this option only if you're familiar with adjusting memory clients' values. (Refer to chapter 4, "Printer Configuration," in the Reference manual for information.) Incorrect use of this option could cause your system to operate incorrectly.
 - If your printer has an optional hard disk, set the Administration/Memory/Enable Disk Swap menu to On. This distributes any extra memory to all clients.
 - Collate through your application.
- Note: Collating through your application is more time consuming than collating through the printer. The application sends the complete job the requested number of times rather than sending it once and holding data in printer memory.

Duplex (2-Sided) Printing

Select paper with high opacity for duplex printing. Opacity refers to how effectively paper blocks out what is written on the opposite side of the page. If the paper has low opacity (high transparency), then the printed data from one side of the page will show through to the other side. For best results, print a small quantity to make sure the opacity is acceptable.

CXE, GXE—Manual Duplexing

While the QMS *magicolor* 2+ CXE and GXE don't have an automatic duplexing option, you can duplex print manually: Print on one side of the paper, reinsert the printed sheet(s) into the media cassette (blank side up and the top of the page toward the back of the printer), and then print the second side.

» **Note:** Media jams may occur if the printed sheet(s) reinserted in the media cassette are not entirely flat.

EXD—Auto Duplexing

2-sided (duplex) printing can be done automatically with the QMS *magicolor 2+* EXD. There is no need to manually reinsert the paper.

Plain paper and limited thick stock up to 28 lb bond (105 g/m²) can be auto duplexed. For heavier weights, manual duplexing is recommended.

In the printer driver (Job tab, Duplex Options), select Long Edge (flipped horizontally as in a loose-leaf notebook) or Short Edge (flipped vertically as on a clipboard).

» **Note:** Duplexed letterhead must be loaded face-down with the top of the media (the letterhead or memo information) toward the front of the cassette.

Printing on Standard and Custom Media Sizes

The QMS *magicolor* 2+ prints on a wide variety of media sizes. However, the way you identify the size to the printer varies:

- Standard "sensed" media sizes—The printer automatically senses seven media sizes—A4, B5 JIS, Com 10^{*}, Executive, Foolscap, Legal, and Letter. To print on these media sizes, you need to do no more than load the media in the cassette.
- Standard "non-sensed" media sizes—The printer can print on seven media sizes—A5*, B5 ISO, DL Envelope*, Folio, SP Folio, Statement*, UK Quarto—that it can't automatically sense. To print on these media sizes, you must load the media in the cassette and then choose the appropriate size from either the Operator Control/Custom Bin/Upper or Operator Control/Custom Bin/Optional menu.
- Nonstandard "non-sensed" media sizes—The printer can also print on nonstandard media sizes up to 8.5" x 13.8" (215.9 x 350.5 mm). To print on these media sizes, you must load the media in the universal cassette, choose Universal from the Operator Control/Custom Bin/Upper or Operator Control/Custom Bin/Optional menu, and then identify the media size in your application.
- Note: If you preview your file in your application, the dimensions of the Universal media size rather than your custom size will be shown in the preview window, and your document will be imaged in the lower-left corner of this media size. You must manually move the margins in from the left and right as well as up from the bottom to define the correct imageable area for your custom media size.

Working with Status Pages

Identifying a Status Page Type

| Menu | Administration/Special Pages/Status Page Type | | | |
|---------|---|--|--|--|
| Choices | Standard, Advanced | | | |
| Default | Standard | | | |

^{*} This media size can be printed only from a cassette installed in the upper/standard position.

Standard

This one-page document provides

- Printer identification (the printer's name, serial number, firmware information, and number of sheets/faces printed during the life of the printer)
- » Note: The number of sheets/faces statistics differ from the number of sheets printed statistics in CrownView and the consumables statistics page (Operator Control/Consumables/Print Statistics), which refer to the number of sheets/faces printed to date during the current consumables tracking period (Administration/ Consumables/Start Period menu).
 - Printer settings (printer setup options for paper handling)
 - Current memory configuration (printer memory settings)
 - Timeouts (printer timeout settings)
 - Communication settings and input buffer sizes (host-printer communication settings, including spooling memory sizes)
 - Tickmarks in the lower-left corner for image alignment

Advanced

This multipage document provides

- All the information from the standard status page
- The configuration menu settings
- A full list of fonts and downloaded emulations.

Printing a Status Page

| Menu | Administration/Special Pages/Print Status | | |
|---------|---|--|--|
| Choices | No, Yes | | |
| Default | Yes | | |

Cancelling/Ending Print Jobs

The Cancel key has three functions:

- It cancels the oldest print job in the system.
- It cancels all jobs with a printing, interpreting, terminating, or spooled status.
- It allows you to send an end-of-job indicator to a currently compiling print job waiting on incoming data.

You don't have to press the Online key before using the Cancel key.

Cancelling a Print Job

| Press this key | to | The message window reads |
|------------------|-------------------------------------|---------------------------|
| Cancel | Access the Job Cancel menu. | JOB CANCEL CANCEL JOB |
| Cancel or Select | Cancel the oldest job in the queue. | CANCEL JOB IS SELECTED |

Cancelling all Print Jobs

| Press this key | to | The message window reads | |
|----------------|---|--------------------------|--|
| Cancel | Access the Job Cancel menu. | JOB CANCEL | |
| | | CANCEL JOB | |
| Next (twice) | Advances to the Cancel All Jobs | JOB CANCEL | |
| | mode. | CANCEL ALL JOBS | |
| Cancel or | Cancel all jobs with a printing, | CANCEL ALL JOBS | |
| Select | interpreting, spooled, or terminating status. The CANCEL ALL JOBS | IS SELECTED | |
| | message displays until all print jobs are completely removed. | | |

Ending a Print Job

Use this procedure when you are sure the job has finished being sent from the host and the message window displays

WAITING ON INPUT END JOB?

» Note: This procedure does not end print jobs that are still receiving data. Its only purpose is to provide an end-of-job indicator for a print job that does not have one. You can identify an end-of-job indicator in the Administration/Communications/Parallel and Administration/Communications/Serial menu. (Refer to chapter 5, "Additional Technical Information," in the Reference Manual for a complete discussion of End Job Mode.

| Press this key | to | The message window reads |
|------------------|------------------------------|--------------------------|
| Cancel | Access the Job Cancel menu. | JOB CANCEL |
| | | CANCEL JOB |
| Next (twice) | Advance to the End Job mode. | JOB CANCEL |
| | | END JOB |
| Cancel or Select | Select End Job. | END JOB |
| | | IS SELECTED |

What's Next?

Chapter 5, "Color Printing," explains advanced color laser technology.

*

5

Color Printing

In This Chapter . . .

- "Introduction" on page 5-2
- "QMS QCOLOR Technology" on page 5-2
- "Printer Drivers" on page 5-10
- "Downloading Custom Profiles" on page 5-22

Introduction

Your QMS *magicolor* 2+ Print System features advanced color laser technology that produces inexpensive and durable color prints at 300x300, 600x600, 1200x600, and 2400x600 dpi on plain paper, envelopes, glossy stock, labels, thick stock, transfer media, and transparencies.

Color Management and Control

Color management has always been a source of contention for graphic designers and publishers who rely on precise color to portray proofs and designs. These color experts want to predictably control and fine tune output color to suit personal and client needs. On the other hand, novice color users don't want to hassle with cumbersome color control devices just to get color output that matches what they see on their screen.

The QMS *magicolor* 2+ Print System was designed with both sectors in mind— offering a host of color screening, matching, and calibration tools for both the beginner and professional color user.

QMS Qcolor Technology

Color management does not mean all devices will match exactly. It does ensure the closest possible color transformation. QMS QCOLOR technology offers four methods for color matching across devices:

- QMS QCOLOR automatic color correction.
- Supplied ICC printer profiles
- Built-in color rendering dictionaries (CRDs)
- Supplied PANTONE®* Color simulation tables

QMS QCOLOR technology takes the guesswork out of color reproduction by automatically optimizing color output. Now even a novice can produce professional quality, colorized documents without the use of sophisticated manual optimization techniques.

^{*} PANTONE® and other Pantone, Inc. trademarks are the property of Pantone, Inc.

QMS QCOLOR is comprised primarily of these built-in and software-supported color control features:

- QMS QCOLOR automatic color correction (printer-resident ICC color matching)
- Built-in color rendering dictionaries
- Host-based ICC color matching profiles
- PANTONE®* Color simulation tables
- Color calibration
- Colorific monitor calibration
- QMS ColorDepth screening technology

To help you optimize color output, QMS developed QCOLOR, which provides automatic or custom color control. QCOLOR dynamically configures the QMS *magicolor* 2+ for the best output quality based on the contents of the document and the media on which it will be printed. QCOLOR matching capabilities include automatic color correction, CIE-based (*Commission International de l'Éclairage*, the International Commission on Illumination) color matching, PANTONE Color simulation, ICM (Image Color Matching) 2.0, and ColorSync 2.x support by means of ICC (International Color Consortium) 3.2-compliant printer profiles.

QMS QCOLOR Automatic Color Correction

QMS QCOLOR automatic color correction (printer-resident ICC color matching) is an ICC color management system built into the QMS *magicolor* 2+. Its color matching method (CMM) functions similarly to ColorSync—color management software developed by Apple.

QMS QCOLOR automatic color correction accepts source (monitor) and destination (printer or press) device profiles in the ICC format, then uses these profiles to perform color space transformations.

The QMS *magicolor* 2+ ships with built-in profiles for matching common RGB types, such as sRGB, Trinitron G1.8 D550, PrePress, and Apple RGB. Press profiles such as SWOP, Eurocolor, InkJet Proofer, and Commercial are also included for simulating press output. ICC-compliant profiles for other monitors or output devices may be downloaded to disk for custom color matching.

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QMS QCOLOR Technology

The following is a summary of QMS QCOLOR automatic color correction features:

- Ease of use across applications: With QMS QCOLOR, it's as easy to get great color from a PowerPoint presentation as it is from a desktop publishing application, such as QuarkXPress. QMS QCOLOR's color matching methods are simple for both novice and professional color users to navigate.
- **Single-button control:** Whether accessing through the printer driver, or from the printer's front panel, QMS QCOLOR's single-button controls enable automatic correction of uncalibrated RGB or CMYK color files.
- **Printer-resident CMS:** Because QMS QCOLOR automatic color correction is built into the printer, it works well in all computing environments and with most design, publishing, and office applications.
- Industry-standard profiles: QCOLOR uses industry-standard ICC profiles for compatibility with popular input and output devices.
- Supports host-based color management systems: Easily disable QMS QCOLOR automatic color correction when using host-based ColorSync or ICM color matching.
- **Profiles for common monitors and output devices:** QMS QCOLOR offers default color matching for a variety of common monitors and printing presses.
- **Download device profiles:** For custom color matching, QCOLOR supports downloaded (to disk only) ICC profiles.
- **Support for Internet standard:** QMS QCOLOR uses sRGB for Internet-standard default color matching.
- Individual page element correction: QCOLOR separately color corrects (matches) graphics, text, and images on a singe page using printer-resident CRDs.

The RGB Source Choices

Listed below are the choices that you will have within your driver for selecting an RGB Source. Depending on the installed driver and the specific operating system, these choices appear in different places. Use RGB Source to indicate the type of computer monitor for color matching.

- None (no color management)
- sRGB (a common standard color space based on the average performance of PC monitors) also known as standard color space used on the world wide web

- Trinitron G1.8 D50 (listed on the configuration menu as Trin G1.8 D50 or Sony Trinitron)—a widely available CRT found in many monitors
- Apple RGB (Apple 13" Monitor, the default Photoshop setting listed in the configuration menu as Apple 13)
- PrePress (the SMPTE-240M standard), also known as Adobe RGB

Simulation Choices

You will need to set a simulation choice if you intend to utilize the built-in color management system on the *magicolor* 2+. These choices allow the *magicolor* 2+ to simulate a target device. The desired device could be another printer, a printing press, or a predetermined printing standard. Listed below are the simulation choices available through the operator control panel or the software driver.

- SWOP (Specifications for Web Offset Publications)
- Eurocolor
- Commercial
- CMYK Display
- InkJet Proofer
- None (no simulation but limits the total area coverage)

Depending on your color matching needs, custom ICC profiles can be downloaded to the *magicolor* 2+. You will need to use the CrownAdmin software provided on the *QMS Software Utilities* CD-ROM. Refer to the CrownAdmin or printer driver's online help.

Color Matching with QMS Advanced Level 2

Your printer's QMS Advanced Level 2 capabilities allow it to accept device-independent CIE color specification directly (in addition to CMYK or RGB color specifications). This means that if you have an application that supports QMS Advanced Level 2 printing (such as Adobe PhotoShop) or if you use the QMS-developed driver for Windows or the *magicolor* 2+ PPD for Macintosh, your printer will perform color matching automatically. These drivers work with the printer-resident color rendering dictionaries to match colors.

The advantages of the QMS Advanced Level 2 color matching are that it is portable, it is application- and printer-resident (there's nothing else to buy), and it is performed

QMS QCOLOR Technology

at the printer level (so it doesn't tie up your host). However, no on-screen preview of output is provided, and you are not warned if a color is out of printer's gamut (color range).

Built-in Color Rendering Dictionaries

For those who rely on the PostScript page description language for CIE-based color space matching, the QMS *magicolor* 2+ has three built-in Color Rendering Dictionaries (CRDs)—Business, Colorimetric, and Photographic to product printer-calibrated images.

The **Business CRD** simulates colors found on the typical RGB computer display and is intended for use with business graphics. This CRD is best utilized when printing transparencies or documents requiring a high level of color saturation.

The **Colorimetric CRD** can be used for very basic color matching and one-to-one conversion of CIE color to CMYK color. For those colors that cannot be produced on the printer, the closest color the printer can produce is substituted.

The **Photographic CRD** is used for optimizing the quality of photographic images. Colors that are out of the printer's gamut (color range) are replaced with the closest color in gamut. When this substitution is made, other specified colors, whether in the printer's gamut range or not, are adjusted equivalently so that the overall image appearance and contrast is maintained. This technique is known as gamut compression.

» Note: The default CRD is either the Business, Colorimetric, or Photographic. The printer's default CRD can be changed through the Macintosh and Windows drivers or, if your application requires you to use a non-QMS driver, you can change the CRD at the printer's control panel (Administration/Emulations/PostScript/Color Rendering menu). See chapter 4, "Printer Configuration," of the Reference manual for information on using the control panel.

Host-Based Color Matching

For creative professionals opting to use a host-based color management system (CMS), QMS provides ICC printer profiles to define the printer's color space to the CMS. These profiles are compatible with all standard color management systems, including Apple ColorSync and Windows ICM.

A few well-known color management systems include Kodak CMS, Pantone* POCE®, Apple ColorSync, Microsoft ICM, Color Solutions ColorBlind, and Linotype-Hell LinoColor. The following are shipped with your printer

- Apple ColorSync/ICC device profiles for 600, 1200, and 2400 dpi
- Windows ICM device profiles for 600, 1200, and 2400 dpi

Instructions for installation and use are included on the *QMS Software Utilities* CD-ROM or on the supplemental color disk provided with the printer.

Here is a list of some applications that support ICC profiles:

- Adobe PageMaker
- Adobe Photoshop
- ColorBlind Edit
- CorelDRAW 7 and 8
- LivePicture
- QuarkXPress

OS CMSs include

- ColorSync 2.x (Macintosh)
- ICM 2.0 (Windows)

Application-level CMSs include

- Kodak CMS
- ColorSolution ColorBlind Parachute
- Pantone POCE®

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PANTONE®* Color Simulation Tables

Another method of color matching supported by the QMS *magicolor* 2+ via QMS QCOLOR technology is PANTONE.

PANTONE, a standard color system within the graphic arts and prepress industry, specifies hundreds of spot colors, each identified by a unique number.

Each PANTONE Color can be simulated on a printer with the specific CMYK data provided by Pantone, Inc. for optimal representation of PANTONE Colors.

Within a supporting application, the desired PANTONE Color number and the corresponding CMYK value are accessed from a look-up table for the printer. QMS provides PANTONE Color look-up (or simulation) tables for supporting popular design and publishing applications:

| Supported Design and Publishing Applications | | | |
|--|---------------------|-------------|--|
| CorelDRAW | Illustrator | PageMaker | |
| FreeHand | Micrografx Designer | Photoshop | |
| | | QuarkXPress | |

If a particular application does not support PANTONE® Colors, but does allow process color specification, the CMYK values may be entered directly. The QMS magicolor 2+ ships with software on the QMS Software Utilities CD-ROM to print a complete set of PANTONE Charts with the appropriate CMYK values.

The advantages of using PANTONE as a color simulation system is it is very easy to use, is widely supported, and is great for spot color.

Color Calibration

Another area of color control of particular concern to designers, publishers, and printers is color calibration. For these graphics professionals, it is important to maintain consistent and stable toner densities from day to day, and from one supply change to the next, to ensure predictable color.

QMS offers an alternative method for color-calibrating the QMS *magicolor* 2+: optional instrument-based calibration software—ColorEncore. Owners of the QMS *magicolor*

^{*} PANTONE® and other Pantone, Inc. trademarks are the property of Pantone, Inc.

2+ can purchase this optional host-based software, Southwest Software's Color-Encore for *magicolor* printers, that requires the use of a densitometer (not included) to perform calibration. Refer to ColorEncore's software documentation for installation and usage.

Once installed, users simply print a target page from the software application and measure the page with the densitometer. The measurement results are used by the software application to return the QMS *magicolor* 2+'s primary toner densities to factory levels.

To calibrate the *magicolor* 2+, select the *magicolor* 2 calibration sets in ColorEncore.

Colorific

Colorific is monitor calibration software that ships with the *magicolor* 2+. This software, which is available for both Windows and Macintosh operating systems, allows you to calibrate your monitor to a standard monitor profile that is supported by the CMM built into the *magicolor* 2+. For best monitor to printer color matching, Colorific software must be used to calibrate the monitor. Once the monitor is calibrated, the printer's built-in ICC color matching, when set to sRGB source data, ensures that printed output matches the monitor. For more information concerning the use of the Colorific software, refer to the instructions that were provided on the *QMS Software* and *Utilities* CD-ROM.

QMS ColorDepth Screening Technology

Line screening and halftones are factors that highly influence color image rendering. In conventional printing, color images are composed of tightly arranged dots (or halftones) that are spaced in a regular pattern and appear solid to the eye. Tonal changes are made by changing the size, or amplitude, of each dot. This technique is known as Amplitude Modulation, or AM screening.

QMS QCOLOR provides a preset AM halftone setting, referred to as QMS ColorDepth. ColorDepth is designed to eliminate rosette and moiré patterns, (or steps) in color gradations by increasing the total number of gray levels (color shades) available in the printer. It also resolves many problems associated with traditional color screening. QMS QCOLOR screening can provide the equivalent of approximately 120 shades per primary color at 600 dpi—for a total of 1.7 million colors. At 1200 dpi, ColorDepth provides approximately 200 shades per primary color for contone-quality images.

Printer Drivers

Printer drivers offer a convenient, graphical interface for selecting document output attributes. QMS has developed its own series of drivers, compatible with several major operating systems, that make the full functionality of the QMS *magicolor* 2+ available with a click of a mouse.

- QMS Advanced Level 2 PostScript driver for Windows 95/98
- QMS Advanced Level 2 PostScript driver for Windows NT 4.0

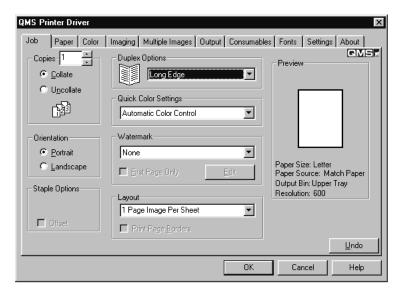
The QMS *magicolor* 2+ also supports the following host operating environments by providing a QMS Advanced Level 2 PPD (PostScript Printer Description) file to use in conjunction with the PostScript driver supplied by the operating system manufacturer:

- Microsoft Windows 95/98
- Microsoft Windows NT 3.51/4.0
- Macintosh System 7.5.5, and 8.x (LaserWriter 8.x)
- Microsoft Windows 3.1 WPDs.

Accessing Color Matching for Windows 95/98

- 1 If you haven't already, install the QMS Advanced Level 2 Windows driver.
- 2 Open or create the file you want to print.
- 3 From the File menu, choose Print Setup or Print.
- 4 In the Print Setup dialog box, make sure QMS *magicolor* 2+ is selected, then choose the Options or Properties button.

5 On the Job tab (Windows 95) (example below) or Paper tab (Windows 98) you will be presented with 11 choices for Quick Color Settings.



The choices are

- Automatic Color Control
- Disable Printer Color Matching
- Internal ICC Color Matching (RGB, CMYK)
- SWOP Simulation (CMYK)
- Eurocolor (CMYK)
- Commercial Press Simulation (CMYK)
- Photographic (RGB w/CRD)
- Business Graphics (RGB w/CRD)
- Text and Spot Color (RGB w/CRD)
- Color as Grayscale
- Color as All Black

- 6 Depending on your printing needs, you must select Automatic Color Control or one of the other selections listed above on the driver's Color tab to set your color configuration.
- Note: The only way to control color is through the Color tab in the driver. Then your choice will be displayed on the Job tab (Windows 95) or Paper tab (Windows 98).

These next sections explain some of the settings in the driver.

Quick/Custom Configuration

This setting will allow you to choose preset configurations or you can set your own custom configurations which you have the option to save within the driver. Listed below are the user-selectable settings for the Quick/Custom Configuration for Color Matching.

- Automatic Color Control—provides best all-around color matching for most documents
- Disable Printer Color Matching—allows for host-based color management
- Internal ICC Color Matching (RGB, CMYK)—provides ICC-based color matching with RGB Source set to sRGB and CMYK Simulation set to None
- SWOP Simulation (CMYK)—provides ICC-based color matching with RGB Source set to sRGB and CMYK Simulation set to SWOP
- Eurocolor Simulation (CMYK)—provides ICC-based color matching with with RGB Source set to sRGB and CMYK Simulation set to Eurocolor
- Commercial Press Simulation—provides ICC-based color matching with RGB Source set to sRGB and CMYK Simulation set to Commercial Press Simulation
- Photographic (RGB w/CRD)—provides PostScript-based color matching using CRDs for CIE RGB objects with a photographic/perceptual intent
- Business Graphics (RGB w/CRD)—provides PostScript-based color matching using CRDs for CIE RGB objects with a graphics intent
- Text and Spot Color (RGB w/CRD)—provides PostScript-based color matching using CRDs for CIE RGB objects with an emphasis on text objects

- Color as Grayscale—prints all colors as a grayscale
- Color as All Black—prints all colored objects as black

If you configure different CRDs or a different color space, you will need to save those custom settings. Click Save and you will be prompted to name your new custom configuration. Be sure to set the Quick Color Setup under the Job tab to Custom so that your settings will take effect.

Automatic Color Control

Automatic Color Control is the best option for most jobs, because it's designed to provide the best color output for a large variety of documents. However, if the automatic setting doesn't provide satisfactory color output for a particular page element or document type, then go to the Color tab where more specific settings can be made.

» Note: For the Windows 95/98 QMS Advanced Level 2 driver, Automatic Color Control is the default setting in the driver. If you print using the default driver settings, printer-resident ICC color matching will be enabled. Select Automatic Color Control for color matching with Colorific software.

Color Separations

This setting allows a full color job to be separated into four color process output. If a job is sent to the printer that contains CMYK information and this setting is on, the printer will separate the cyan, magenta, yellow, and black pages. The default setting for Color Separations is off.

Use Internal ICC Color Matching

The *magicolor* 2+'s built-in ICC color matching is always active. Listed below are the user-selectable settings that allow precise color management for your particular application or predetermined color management workflow.

RGB Source

The choices for RGB Source are None, sRGB, Trinitron G1.8D50, Apple RGB, PrePress, and Printer Default.

When Internal ICC Color Matching is selected, the RGB Source has to be set from the above list or you have the option of creating your own custom RGB Source profile with the Colorific software that was included with your *magicolor* 2+. See the Colorific README file located on the *QMS Software Utilities* CD-ROM for more details on how to create and load a customer RGB Source profile.

» Note: The default setting for RGB Source is set to sRGB.

Simulation

The choices for Simulation are SWOP, Eurocolor, Commercial, CMYK Display, Inkjet Proofer, None, and Printer Default.

When Internal ICC Color Matching is selected, the Simulation can be set from the above list to allow the *magicolor* 2+ to simulate another color output device's color space, such as SWOP or Eurocolor.

» **Note:** The default setting for Simulation is set to None which provides the optimum output quality of the magicolor 2+.

Use CRD Color Matching

Another selectable option for the *magicolor* 2+'s built-in color matching. Listed below are the user-selectable settings when you click on the Configure button next to Use CRD Color Matching.

- Images
- Graphics
- Text

You will be able to select Business, Colorimetric, Printer Default or the Photographic CRD for Images, Graphics, or Text. The default CRD for Images and Graphics is Photographic, and for and Text the default CRD is Business.

CRD Color Space

You are able to select a CRD Color Space within the Use CRD Color Matching on the Color tab. Click on Configure and you will be able to select Device RGB, sRGB, Trinitron G1.8D50, Apple RGB, Printer Default, or PrePress as a CRD Color Space. The default setting for CRD Color Space is Device RGB.

You can also load custom CRD Color Space profiles from this option. The README file for Colorific and CrownAdmin explain how to load custom CRD color spaces.

Accessing Color Matching for Microsoft Windows NT 4.0

Doug and Baret to fix

1 If you haven't already, install the QMS NT Windows driver.

- 2 Open or create the file you want to print.
- 3 From the File menu, choose Print Setup or Print. You can also right mouse click the driver and select Document Defaults.
- 4 You will be presented with two tabs, Page Setup and Advanced. Click on the Advanced tab to view the tree structure. Select Document Options, then Printer Features to view color options. Listed below are the color features available for the *magicolor* 2+.
 - Color Model
 - Color Rendering Dictionaries
 - ICC Color Matching

Color Model

There are two color models the user can select from:

- Color
- Monochrome

Color is the default setting for the *magicolor* 2+ and allows, as the name implies, full color printing. The Monochrome setting allows 8-bit black and white printing.

Color Rendering Dictionaries

From the tree structure, you will be able to select a CRD. You may choose from Photographic, Business, and Colorimetric. This feature is on by default for the Windows NT driver. Listed below are the user-selectable settings from the tree structure for the Color Rendering Dictionaries.

- Text
- Line Art
- Images

The halftone setting for Text, Line Art, and Images is enhanced. You will be able to select Business, Colorimetric, or the Photographic CRD for Images, Line Art or Text. The default CRD for Images and Line Art is Photographic and for Text the default CRD is Business.

ICC Color Matching

If ICC Color Matching is enabled you can set an ICC RGB Source and the ICC Simulation. ICC Color Matching is on by default for the Windows NT driver.

ICC RGB Source

The choices are None, sRGB, Trinitron G1.8 D50, Apple RGB, PrePress, Custom 1, Custom 2, Custom 3, and Printer Default.

When Internal ICC Color Matching is selected, the RGB Source has to be set from the above list or you have the option of creating your own custom RGB Source profile with the Colorific software that was included with your *magicolor* 2+. Please see the Colorific README file located on the *QMS Software Utilities* CD-ROM for more details on how to create and load a customer RGB Source profile.

» Note: The default setting for RGB Source is set to sRGB

Simulation

The choices are None, SWOP, Inkjet Proofer, Eurocolor, CMYK Display, Commercial, Custom 1, Custom 2, Custom 3, and Printer Default.

When Internal ICC Color Matching is selected, the Simulation can be set from the above list to allow the *magicolor* 2+ to simulate another color output device's color space, such as SWOP or Eurocolor.

» Note: The default setting for Simulation is set to None.

Procedure for Creating and Saving a Custom Color Configuration for Microsoft NT 4.0

Depending on what driver you have selected (third-party driver or the QMS driver), you will have different options for custom configuration that will appear in the driver's print window.

WPDs

Depending on your version of Windows and your printing environment, you may encounter printing problems with the Windows driver. If so, use Microsoft's Windows driver with the Windows Printer Description (WPD) file.

WPD files are analogous to PPD files. They are configuration files used to indicate to a print manager (driver) the capabilities of the printer described by the file. A major difference between a WPD file and a PPD file is that a PPD file is "human-readable"; it consists of actual ASCII text that you can look through and understand (if you speak PostScript). A WPD file is "compiled." It is in a binary form that is only for use with the Windows 3.x PostScript driver. To install the WPD:

- 1 In the Start menu, choose the Control Panel icon.
- 2 Choose the Printers icon.

The Printers dialog box opens and displays the list of installed printers. If no printer is installed, the dialog box expands downward to display a list of printers available to Windows 95/98. If the dialog box is already expanded, skip to step 5.

- 3 Click the Add button.
- 4 In the List of Printers box, select Install Unlisted or Updated Printer.
- 5 Click on the Install button and another dialog box appears, asking for the disk that has the unlisted or updated driver file on it.
- 6 Insert the QMS Software Utilities CD-ROM.
- 7 Type

x:\platform\windows\wpd3x

(where x is the drive in which you inserted the CD-ROM) or use the Browse option to select that same path.

8 Choose OK.

You should see a list of available QMS printers.

9 Select the QMS printer that you are installing the WPD driver for and choose OK.

Windows may or may not ask for the updated driver, depending on what has already been installed. If it does not ask for an updated driver, the QMS printer that you selected will appear in the list of installed printer.

Accessing Color Matching for Macintosh

You will find that the *magicolor* 2+ provides an array of robust color matching options that allows the user to custom tailor a specific color matching setup for his or her particular needs. Below is the list of color matching options available for Macintosh.

- ColorSync Color Matching
- Printer-Resident ICC Color Matching
- QMS Advanced Level 2 Color Matching

Since the *magicolor* 2+ offers multiple color matching options, remember that only one color management system can "drive" the printer at a time. Please read the following sections thoroughly to ensure that you understand how to select each of these color matching options.

ColorSync Color Matching

ColorSync is host-based color matching software that is provided by Apple. Current versions of the Macintosh system software install and support the ColorSync color matching software. To determine if you have this software installed on your Macintosh, check the Control Panels folder in the Apple menu. If you need to install ColorSync, locate your Macintosh System Software CD-ROM and run the Installer.

To invoke ColorSync color matching you will need to perform the following steps:

1 Make sure you've installed the *magicolor* 2+ PPD and you have the *magicolor* 2+ ICC profiles installed correctly on your Macintosh. If you have not, locate the *QMS Software Utilities* CD-ROM that shipped with your printer and install these first.

- 2 Prepare your document for color printing and access the Print dialog box by selecting Print.. from the File menu. Once you are in the main print dialog box, select Color Matching from the General pop-up menu.
- 3 You will be presented with three pop-up menus once you are in the Color Matching section. Listed below are the three menus.
 - Print Color
 - Intent
 - Printer Profile
- 4 You will need to change the Print Color: pop-up menu from Color/Grayscale to ColorSync Color Matching. If this selection is not made, you will not activate ColorSync, even though the software is installed on your Macintosh.
- 5 You will have multiple choices for the Intent: pop-up menu. If you are unsure of what to choose, leave this at the default setting, Auto Selection or refer back to the ColorSync documentation that was included with your Macintosh.
- 6 In the Printer Profile: pop-up menu, you will need to select *magicolor* 2+ from the list of printers. If you do not see the *magicolor* 2+ listed, then you do not have the ICC profiles installed correctly. With System 8.1, the ICC profiles are stored in the System Folder inside a folder titled, "ColorSync Profiles."
- 7 As stated at the beginning of this section, only one color management system can be active at a time. Access Printer Specific from the General pop-up menu in the print dialog box. Set ICC RGB Source to None, and set ICC Simulation to None.

QMS recommends using ColorSync since most of the popular graphics applications on the market today support this method of color matching, and ColorSync is recognized as the standard for color matching on Macintosh computers.

Printer-Resident ICC Color Matching

In addition to ColorSync, the *magicolor* 2+ supports ICC color matching that is built into and performed on the printer. Printer resident matching is faster than host-based color matching (ColorSync) since the calculations for color matching take place on the printer and not the Macintosh.

To invoke the printer resident color matching you will need to perform the following steps:

- 1 Make sure you've installed the *magicolor* 2+ PPD and you have the *magicolor* 2+ ICC profiles installed correctly on your Macintosh. If you have not, locate the *QMS Software Utilities* CD-ROM that shipped with you printer and install these first.
- 2 Prepare your document for color printing and access the Print dialog box by selecting Print.. from the File menu. Once you are in the main print dialog box, select Color Matching from the General pop-up menu.
- You will be presented with three pop-up menus once you are in the Color Matching section. Listed below are the three menus.
 - Print Color
 - Intent
 - Printer Profile
- 4 You will need to change the Print Color: pop-up menu from ColorSync Color Matching to Color/Grayscale. If this selection is not made, you will not activate the printer resident color matching.
- 5 Select Color Options from the General pop-up menu. Set ICC Color Matching to Enabled. Listed below are the options you will need to set to use the printer resident color matching.
 - ICC RGB Source
 - ICC Simulation

RGB Source allows you to pick the type of monitor you are using. Normally you will select Apple RGB since this is a common profile for most Macintosh monitors. The ICC Simulation choice will allow you to simulate another color output device's color space, such as SWOP or Eurocolor. Leave the ICC Simulation setting at None if you do not want to simulate another printer.

PrePress users are allowed to download their own custom ICC profiles via CrownAdmin software located on the *QMS Software Utilities* CD-ROM. These custom ICC profiles are activated by selecting Custom1, Custom2, and Custom3 from the ICC RGB Source or the ICC Simulation pop-up menus. These are only available once profiles have been successfully downloaded to the printer.

QMS Advanced Level 2 Color Matching

The third and final color matching option for the *magicolor* 2+ is obtained by utilizing the QMS Advanced Level 2 functions available though the LaserWriter driver. QMS Advanced Level 2 color matching allows the user to access the printer's Color Rendering Dictionaries, commonly know as CRDs. Listed below are the steps required to activate QMS Advanced Level 2 color matching.

- 1 Make sure you've installed the magicolor 2+ PPD and you have the magicolor 2+ ICC profiles installed correctly on your Macintosh. If you have not, locate the QMS Software Utilities CD-ROM that shipped with your printer and install these first.
- 2 Prepare your document for color printing and access the Print dialog box by selecting Print.. from the File menu. Once you are in the main print dialog box, select Color Matching from the General pop-up menu.
- You will be presented with three pop-up menus once you are in the Color Matching section. Listed below are the three menus.
 - Print Color
 - Intent
 - Printer Profile
- You will need to change the Print Color: pop-up menu from Color/Grayscale to Postscript Color Matching. If this selection is not made, you will not activate the CRDs that are built into the *magicolor* 2+ for this type of color matching.
- In the Printer Profile: pop-up menu, you will need to select *magicolor* 2+ from the list of printers. If you do not see the *magicolor* 2+ listed, you do not have the ICC profiles installed correctly. With System 8.1, the ICC profiles are stored in the System Folder within a folder titled ColorSync Profiles.
- 6 Select Color Options from the General pop-up menu. Set ICC RGB Source to None, and set ICC Simulation to None. As stated before, only one method can be used for color matching. Listed below are the options you will need to set to use the QMS Advanced Level 2 color matching.
 - Color Rendering Dictionaries
 - CRD RGB Source

You have three CRD choices: Photographic, Business, and Colorimetric. Depending on your output need, select an appropriate CRD from this menu.

Downloading Custom Profiles

With the introduction of the *magicolor* 2+, we have also added a CRD RGB Source selection in the Printer Specific pop-up menu. The CRD RGB Source allows you to pick the type of monitor you are using. Again, you will select Apple RGB since this is a common profile for most Macintosh monitors. This feature will allow a more accurate screen to final output match when using this QMS Advanced Level 2 Color Matching option.

As you have discovered, the *magicolor* 2+ provides a variety of color matching options that allows you to custom tailor a specific color matching setup for your particular needs.

The *magicolor* 2+ allows the downloading of custom ICC profiles that will be stored on the printer. These custom profiles can be accessed through a PPD or a QMS-supplied driver on a per-job basis. From the keypad, you can also set a custom profile as the default on the printer. To view the current profiles on the *magicolor* 2+, access Special Pages under the Administration menu and select Yes under CMM Profile Page.

Listed below are the steps for downloading a custom ICC profile to the *magicolor* 2+ printer. Your *magicolor* 2+ must be an EXD model or a *magicolor* 2+ that has an internal hard drive. You can not download profiles to external hard drives.

1 After a custom ICC RGB Source or Simulation profile has been created, rename the profile so it can be recognized by the printer.

This renaming is done, so the PPD for Macintosh, Windows 95 PPD, and Windows NT driver can correctly identify the profile.

You must name your custom ICC RBG Source profile either custrgb1.icc, custrgb2.icc, or custrgb3.icc. Listed below is an example of some custom ICC RGB Source profiles and how they would be renamed.

| User-Defined Name | magicolor 2+ Naming for PPDs |
|--------------------------|------------------------------|
| CORLMTL.ICC | custrgb1.icc |

| MYPROF.ICC | custrgb2.icc |
|-------------|--------------|
| UMAXD50.ICC | custrgb3.icc |

- » Note: If you do not rename your files correctly, the magicolor 2+ PPDs can not select the custom profiles. However, you will still be able to download the profiles and use them as a default setting for the RGB Source and Simulation for ICC Color Matching.
 - 2 Once you have renamed your custom ICC RGB Source or Simulation, you will need to used CrownAdmin to download a profile to the *magicolor* 2+.
 - 3 Locate your QMS Software Utilities CD-ROM and install CrownAdmin if necessary.Download the custom profile via CrownAdmin.
 - Select PS Utilities... from the Printer menu.
 - Under the Download tab select Destination as Other.
 - Select the Local Files... button and specify the ICC profile to download.
 - Click Open.
 - Select Remote Path... and go to USR.
 - Click Select.
 - 4 Verify the destination as SYS:/USR/*.*.

You might need to type this information in, if it is not present.

- 5 Select Download to send the custom ICC RGB Source or Simulation profile to the *magicolor* 2+'s internal hard drive.
- 6 Verify the SProfile.ps file contains the correct file name.

You can use a text editor such as Notepad or SimpleText to change the file name listed in the SProfile.ps file.

- 7 Download the file SProfile.ps to register the profile.
 - Select PS Utilities... from the Printer menu.
 - Under the Download tab, select Destination as PostScript.
 - Select the Local Files... button and specify the SProfile.ps.
 - Click Open.

- Select Remote Path... and go to PostScript.
- Click Select.

To view the current profiles on the *magicolor* 2+ access Special Pages under the Administration menu and select Yes under CMM Profile Page.

To utilize your custom profiles, you will need to select Custom 1, Custom 2 or Custom 3 from the RGB Source or the Simulation pop-up menus located under Printer Specific Options in the Print dialog box for Macintosh. In Windows 95, you can utilize your profiles from the Color tab by selecting Configure for ICC Color Matching or selecting Document Defaults in the QMS Windows NT driver.

» **Note:** You can only download one custom profile at a time to the magicolor 2+. After each download of a custom ICC profile, be sure to send the SProfile.ps file to ensure that the new custom profile is available for use or restart the magicolor 2+.

Profiling Your Printer

The *magicolor* 2+ may be profiled using third-party software such as ColorBlind MatchBox. Refer to the vendor's software documentation for installation and usage instructions. One created, a new ICC profile can be downloaded to the *magicolor* 2+ to recharacterize the printer's entire color matching system.

Details for downloading for recharacterization are not included in this manual. These instructions may be found in the Frequently Asked Questions (FAQs) on the QMS website at http://www.qms.com/support. Perform a keyword search for "mc2+ and profiling".

These instructions will include the required driver, configuration, and other steps for profiling the *magicolor* 2+ printer.

What's Next?

Chapter 6, "Printer Care," explains how to handle and clean the printer.

*

6

Printer Care

In This Chapter . . .

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- "Handling the Printer" on page 6-2
- "Cleaning the Printer" on page 6-3
- "Maintenance Schedule" on page 6-20
- "Replacing the Fuser Oil Bottle and Cleaning Roller" on page 6-24
- "Replacing the OPC Belt Cartridge" on page 6-28
- "Replacing the Ozone Filter" on page 6-31
- "Replacing the Waste Toner Pack" on page 6-32
- "What's Next?" on page 6-33

Introduction

This chapter describes how to handle and clean the printer.

Blurred or splotchy prints and paper jams can result from dusty printer parts. Regular cleaning takes only a few minutes and helps ensure print quality. Printer parts that require cleaning are the paper pickup rollers and the outside surface of the printer.

Handling the Printer

Handle the printer with care to preserve its life. Abuse may cause damage. Keep the following guidelines in mind:

- Do not place anything on the top of the printer.
- If you have an EXD model, always open the duplexer's rear cover before opening the printer's top cover.
- Avoid spraying cleaning solution directly on the printer's surface; the spray could penetrate through the air vents of the printer and damage the internal circuits.
- Be careful when cleaning the inside or removing paper jams, as the fuser assembly and other internal parts become very hot. Open the printer cover, and let the interior of the printer cool before handling the inside of the printer.
- Always close the printer covers gently. Never expose the printer to vibrations.
- Do not cover the printer immediately after using it. Turn it off and wait until it cools down.
- Do not leave the printer open for any length of time, especially in well-lit places; light may damage the OPC belt cartridge.
- Do not open the printer during printing and do not tap paper stacks on the printer.
- Do not tilt, lubricate, or disassemble the printer.
- Do not touch the electrical contacts, gears, or laser beam devices. Doing so may damage the printer and cause the print quality to deteriorate.
- Keep media in the output tray at minimum level. If the media stacks too high, your printer may experience media jams and excessive media curl.

- Lift the printer from the bottom only, using the carrying grips under each side corner. Make sure two people are available to lift the printer when moving it.
- Keep the following in mind when storing the printer for an extended period:
 - Unplug the printer.
 - Remove the toner and OPC belt cartridges from inside the printer. After removing the cartridges, return them to their original packaging. If the original packaging is not available, protect the toner cartridges from spilling toner, and protect the OPC belt cartridge from damage and light.
 - See appendix B, "Technical Specifications," in the Reference manual for storage specifications.

Cleaning the Printer

Paper dust may accumulate inside the printer. This could affect the printer's performance. To prevent any potential problems associated with this, you should clean your printer on a regular basis. You need to clean both the inside and outside of the printer.

WARNING! Turn off the printer, unplug the power cord, and disconnect all interface cables before cleaning.

ACHTUNG! Ziehen Sie den Netzstecker aus der Steckdose bevor Sie den Drucker reinigen.

Guidelines for Cleaning Inside the Printer

- Either clean the printer before use, or allow a few minutes after unplugging it to allow the fusing unit to cool down.
- Turn off the printer, unplug the power cord, and disconnect all interface cables before cleaning inside the printer.
- Read all caution and warning labels carefully, making sure to follow any instructions contained in them. These labels are located on the inside of the printer's covers and the interior of the printer body.
- Use only dry, lint-free cotton cloths or swabs.

Printer Care 6-3

Cleaning the Printer

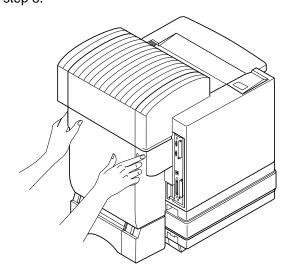
- If you have an EXD, always open the duplexer's rear cover before opening the printer's top cover.
- Make sure any parts removed during cleaning are replaced before you plug in the power cord, reconnect the interface cables, and turn on the printer.

Cleaning the Transfer Unit

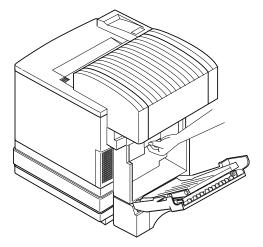
These items in the transfer unit require cleaning:

- Registration rollers
- Transfer roller
- Paper discharge
- » Note: A dry cotton cloth and dry cotton swab are required for these procedures.
 - 1 Turn off and unplug the printer.
 - 2 If you have an EXD model, open the duplexer's rear cover.

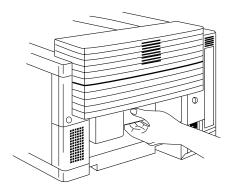
 If not, skip to step 3.



Reach into the duplexer's rear cover to access the printer's rear cover.



- 3 Open the printer's rear cover.
- » **Note:** The illustrations for steps 3 through 8 show the printer without the duplexer. However, the instructions are the same for all models.

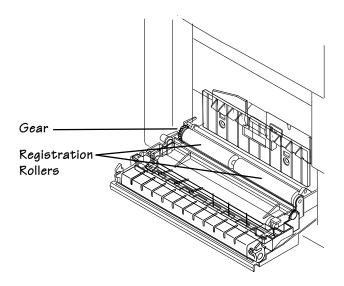


4 Using a dry cotton cloth, clean any paper dust and toner buildup from the registration rollers.

Printer Care 6-5

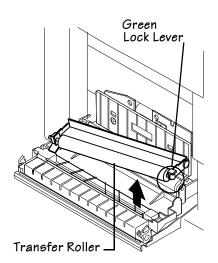
Cleaning the Printer

You can manually rotate the rollers while cleaning them by turning the gear on the left end of the roller shaft.



5 Clean the transfer roller.

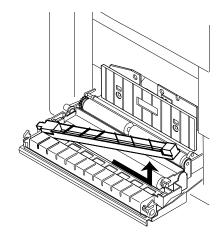
- a Remove the transfer roller unit by lifting the green lock lever at the right end of the transfer roller unit until the unit is freed, and then lifting the unit out.
- Note: Because you cannot see when the unit is released, it's best to lift the unit and the green lock lever at the same time.



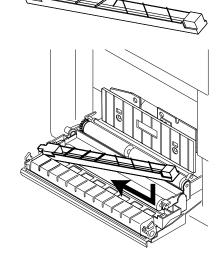
- b Using a dry cotton cloth, clean any paper dust and toner buildup from the transfer roller.
- » Note: Manually rotate the roller while cleaning it.
 - c Reinstall the transfer roller in the transfer unit.

6 Clean the paper discharger.

- a Remove the paper discharger by pushing it to the right and then lifting it up and out of the transfer unit. (It comes out after the tabs on the charger have cleared their retainers.)
- b Using a dry cotton cloth, clean any paper dust and toner buildup from the outside of the paper discharger.



- Using a dry cotton swab, clean any paper dust and toner buildup from the interior of the paper discharger.
- d Using a dry cotton swab, clean the paper discharger wire.
- e Reinstall the paper discharger in the transfer unit, and then push it down and to the left to lock it in place.
- 7 Clean any paper dust and toner buildup found on the transfer unit itself.
- 8 Close the printer's rear cover.



Wire inside

Printer Care 6-7

Cleaning the Printer

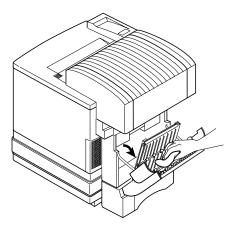
9 If you have a duplexer, using a dry cotton cloth, clean any paper dust and toner buildup from the interior of the duplexer.

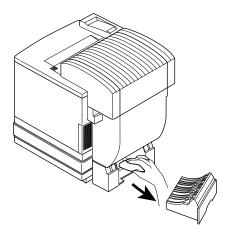
If not, skip to step 17.

- » Note: A dry cotton cloth is required for these procedures.
 - 10 Tilt the paper path toward the inside of the printer.

Using a dry cotton cloth, clean any paper dust and toner buildup from the interior of the paper path.

- 11 Clean the registration rollers.
- 12 Close the duplexer's rear cover.
- 13 Remove the duplexer's lower rear assembly.
- 14 Using a dry cotton cloth, clean any paper dust and toner buildup from the lower rear assembly and its registration rollers.
- 15 Reach underneath the printer and clean with a dry cotton cloth.
- 16 Reinsert the duplexer's lower rear assembly.
- 17 Plug in the printer, and turn it on.
- Note: In compliance with UL guidelines, "The appliance inlet is considered to be the main disconnect device."

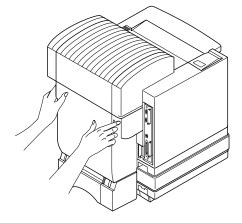




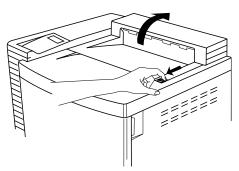
Cleaning the Paper Exit Rollers

- » Note: A dry cotton cloth is required for this procedure.
 - 1 Turn off and unplug the printer.
 - 2 If you have an EXD, open the duplexer's rear cover.

If not, skip to step 3.



- 3 Pull the latch to release the top cover, and then open the cover.
- Note: The illustrations for step 3 and step 4 show the printer without the duplexer. However, the instructions are the same for all models.



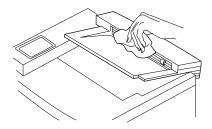
Printer Care 6-9

Cleaning the Printer

4 Using a dry cotton cloth, clean the paper exit rollers.

While manually rotating each paper exit roller, clean each roller.

5 Close the printer's top cover.



- 6 If you have a duplexer, close the duplexer's rear cover.
 - If not, go on to step 7.
- 7 Plug in the printer, and turn it on.
- » Note: In compliance with UL guidelines, "The appliance inlet is considered to be the main disconnect device."

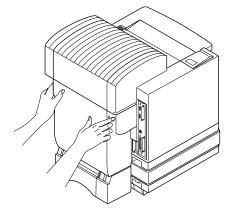
Cleaning the OPC Belt Cartridge

◆ Caution: The OPC belt is extremely sensitive to touch. Always handle the cartridge so you don't touch the surface of the belt. Any body oil left on the surface of the belt will prevent toner from adhering to the belt which results in poor image quality. Also, keep the cartridge away from anything that may scratch the surface of the belt. Any scratches will show in the image produced.

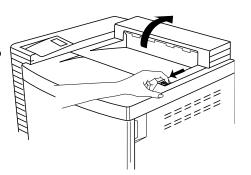
The OPC belt is also extremely sensitive to bright light and direct sunlight. Always leave it in its protective bag until you are ready to install it. Any exposure to light should be limited to two minutes. If you suspect the belt is damaged due to exposure to light, put the belt in a dark place to recover. Depending on the amount of exposure, recovery may take up to two hours. Recovery time is dependent on the amount of exposure sustained. Recovery is not guaranteed.

- » Note: A dry cotton cloth is required for this procedure.
 - 1 Turn off and unplug the printer.
 - 2 If you have an EXD, open the duplexer's rear cover.

If not, skip to step 3.



- 3 Pull the latch to release the top cover, and then open the cover.
- Note: The illustrations for step 3 and step 4 show the printer without the duplexer. However, the instructions are the same for all models.

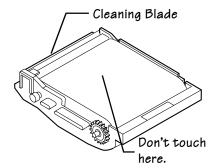


4 Open the printer's front cover, release the OPC belt cartridge green lock levers, and remove the OPC belt cartridge.

Printer Care 6-11

Cleaning the Printer

- 5 Using a dry cotton cloth, clean any toner buildup from around the cleaning blade.
- ◆ Caution: Don't touch the edge of the cleaning blade.
 - 6 Clean any paper dust and toner buildup found on the OPC belt cartridge itself.

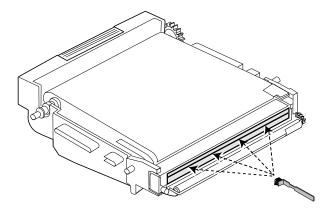


- ◆ Caution: Handle the cartridge carefully. The belt is very sensitive to hand oils and scratches, both of which reduce print quality.
 - 7 Remove the corona wire cleaning brush from inside the front of the printer.



8 Turn the OPC belt cartridge so that the handle is facing away from you.

- 9 Use the brush to clean the corona wire inside end of the OPC belt cartridge.
- ♦ Caution: The corona wire is very delicate. Do not press hard on the wire.



- 10 Reinstall the OPC belt cartridge, and secure its green lock levers.
- 11 Return the corona wire cleaning brush to its holder, and then close the printer's front and top covers.
- 12 If you have a duplexer, close the duplexer's rear cover.

Cleaning the Laser Lens



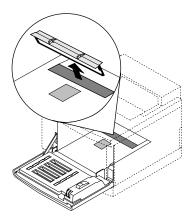
It's necessary to clean the laser lens only when you find vertical white or light-color streaking in all primary colors on your printouts.

A dry cotton cloth or dry cotton swab is required for this procedure.

- 1 Open the printer's front cover.
- 2 Remove the four toner cartridges.
- 3 Remove the laser lens.

Use the two tabs on top of the lens.

- 4 Using a dry cotton cloth, wipe the lens.
- 5 Reinstall the laser lens.
 It slides in at a 45° angle.
- 6 Reinstall the four toner cartridges.
- 7 Close the printer's front cover.



Cleaning the Duplexer

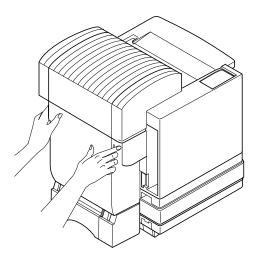
If you have an EXD model, you should clean the inside of the duplexer on a regular basis.

- » Note: A dry cotton cloth is required for this procedure.
 - 1 If you have a duplex model, follow steps 2 through 14.

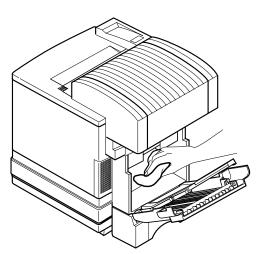
If not, skip to "Cleaning the Exterior of The Printer" on page 6-19.

- 2 Turn off and unplug the printer.
- 3 Open the duplexer's rear cover.

Do not open the printer's rear cover.

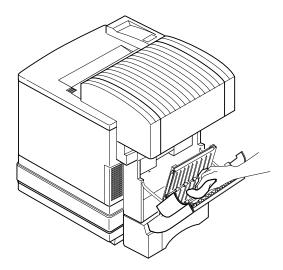


4 Clean the duplexer with a dry cotton cloth.



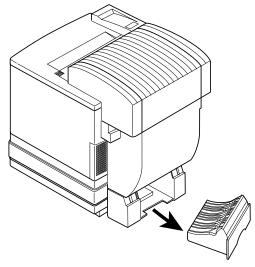
Cleaning the Printer

- 5 Tilt the paper path toward the inside of the printer.
- ◆ Caution: Hold the paper path unit by its corners to avoid the unit catching your fingers between it and the cover.
 - 6 Clean the registration rollers with a dry cotton cloth.

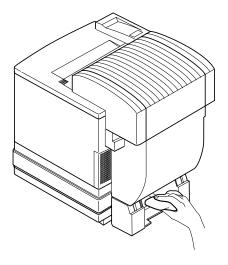


7 Remove the duplexer's lower rear assembly.

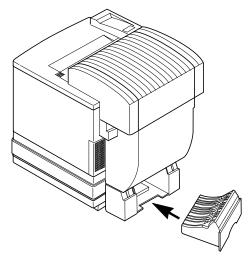




- 8 Clean the registration rollers with a dry cotton cloth.
- 9 Reach underneath the printer and clean with a dry cotton cloth.

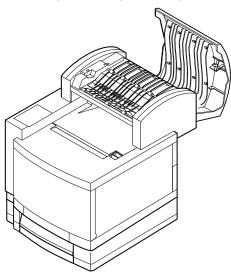


10 Reinsert the duplexer's lower rear assembly.



11 Open the duplexer's top cover.

Note: Use two hands to open the duplexer's top cover to avoid twisting its hinge.



- 12 Clean the registration rollers with a dry cotton cloth. While manually rotating each paper exit roller, clean each roller.
- 13 Close the duplexer's top cover.

Cleaning the Exterior of The Printer

WARNING! Turn off the printer, unplug the power cord, and disconnect all interface cables before cleaning. Do not spill water or detergent into the printer; otherwise the printer will be damaged and an electric shock may occur.

ACHTUNG! Ziehen Sie den Netzstecker aus der Steckdose bevor Sie den Drucker reinigen. Verschütten Sie kein Wasser oder andere Flüssigkeiten auf dem Drucker, da das Gerät sonst beschädigt wird oder die Gefahr eines elektrischen Schlages besteht.

To protect your printer and maintain its appearance, clean the exterior regularly. Use the following guidelines:

- Use only a dry or slightly damp, lint-free, soft cloth moistened only with water or mild detergent.
- Never use cleaning solutions that contain solvents, such as alcohol and benzene. Solvents may damage the printer's finish.
- Always test any cleaning solution on a small area of your printer to check the solution's performance.
- Never use sharp or rough implements, such as wire or plastic cleaning pads.
- Never spray a cleaning solution directly on the printer as the cleaning solution will penetrate to the interior of the printer and cause damage.

Maintenance Schedule

Cleaning Schedule

Every 20,000 single-sided pages, a thorough cleaning should be performed by the user.

| This item needs cleaning | After | Ву | |
|---|---|--|--|
| If you have the duplex | Every 20,000 single-sided pages, or 12 months, whichever comes earlier. | User | |
| model, the duplex unit paper guides | | See information about cleaning the duplexer on page 6-8. | |
| If you have the duplex | Every 20,000 single-sided pages, | User | |
| model, the duplex unit roller | or 12 months, whichever comes earlier. | See information about cleaning the duplexer on page 6-8. | |
| Laser lens | Only when you find vertical white or light-colored streaking in all primary colors on your printouts. | User | |
| | | See "Cleaning the Laser Lens" on page 6-14. | |
| OPC belt cartridge and | Every 20,000 single-sided pages, | User | |
| corona wire (also known as the OPC charge wire) | or 12 months, whichever comes earlier. | See "Cleaning the OPC Belt Cartridge" on page 6-10. | |
| Paper discharger | Every 20,000 single-sided pages, or 12 months, whichever comes earlier. | User | |
| | | See "Cleaning the Transfer Unit" on page 6-4. | |
| Paper exit rollers (also | Every 20,000 single-sided pages, or 12 months, whichever comes earlier. | User | |
| known as paper guides) | | See "Cleaning the Paper Exit Rollers" on page 6-9. | |
| Printer exterior | As needed | User | |
| | | See "Cleaning the Exterior of The Printer" on page 6-19. | |

Maintenance Schedule

| This item needs cleaning | After | Ву |
|--------------------------|---|---|
| Printer interior | Every 20,000 single-sided pages, or 12 months, whichever comes earlier. | User |
| | | See "Guidelines for Cleaning Inside the Printer" on page 6-3. |
| Registration roller | Every 20,000 single-sided pages, or 12 months, whichever comes earlier. | User |
| | | See "Cleaning the Transfer Unit" on page 6-4. |
| Transfer roller | Every 20,000 single-sided pages, or 12 months, whichever comes earlier. | User |
| | | See "Cleaning the Transfer Unit" on page 6-4. |

Preventive Maintenance Schedule

| This item needs preventive maintenance | After | Ву |
|---|---|---|
| Printer—20,000-page preventive maintenance | 20,000 single-sided pages. | User See the standard "Cleaning Schedule" on page 6-20. |
| Printer—60,000-page preventive maintenance | 60,000 single-sided pages. | QMS National Service or a QMS-authorized service provider |
| Printer—120,000-page preventive maintenance | Replace 120K kit displays in the message window (after 120,000 single-sided pages). | QMS National Service or a QMS-authorized service provider |

Replacement Schedule

By the User

| This item needs replacing | After | Ву | |
|--|--|---|--|
| Cleaning roller | Check fuser cleaning rol[1]er or Replace cleaning Roller displays in the message window (after 12,000 single-sided pages at 5% coverage of each color). | User See "Replacing the Fuser Oi Bottle and Cleaning Roller" o page 6-24. | |
| Fuser cleaning roller | 12,000 pages. | User See "Replacing the Fuser Oil Bottle and Cleaning Roller" o page 6-24. | |
| Fuser oil bottle | Check fuser oil & cleaning rol[1]er displays in the message window (after approximately 12,000 single-sided pages; however, fuser oil bottle life is media dependent—coarser paper requires more oil). | User See "Replacing the Fuser Oil Bottle and Cleaning Roller" on page 6-24. | |
| OPC belt cartridge (with charger unit) | Replace OPC displays in the message window (maximum life—50,000 planes, usually occurs with continuous use; minimum life—20,000 planes, usually occurs with intermittent use although other factors also affect cartridge life). | See "Replacing the OPC Belt Cartridge" on page 6-28. | |
| Ozone filter 60,000 planes or every 12 months, whichever comes earlier. | | User See "Replacing the Ozone Filter" on page 6-31. | |

Maintenance Schedule

| Toner | 10,000 single-sided pages—black; after 6,000 single-side pages—yellow, magenta, cyan @ 5% coverage of each color. | User See "Replacing a Toner Cartridge" on page 3-18. |
|------------------|---|---|
| Waste toner pack | Check waste Toner displays in the message window (after 12,000 single-sided pages—or 24,000 planes—at 5% coverage of each color). | User See "Replacing the Waste Toner Pack" on page 6-32. |

By the QMS Authorized Service Provider

| This item needs replacing | After | Ву | |
|---------------------------|--|---|--|
| Drum assembly | 120,000 single-sided pages. | QMS National Service or a QMS-authorized service provider | |
| Fuser unit | Replace fuser displays in the message window (after 60,000 single-sided pages maximum at an equal mix of black and 4-color pages, all with 5% coverage of each color). | QMS National Service or a QMS-authorized service provider | |
| Paper discharger | 120,000 single-sided pages at 5% coverage of each toner color. | QMS National Service or a QMS-authorized service provider | |
| Transfer roller | r roller 120,000 single-sided pages at 5% QMS Nationa coverage of each toner color. QMS-authoriz provider | | |

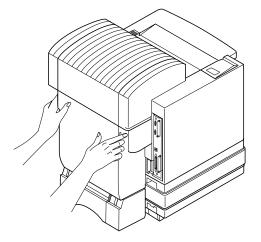
Replacing the Fuser Oil Bottle and Cleaning Roller **

- ◆ Caution: The fuser unit is an integral part of the imaging process and is also expensive to replace. Fuser life will be shortened (or the fuser permanently damaged) if the oil bottle and cleaning roller are not changed when needed and installed properly. This type of damage is not covered under warranty or service contract.
- **WARNING!** The fuser unit can become extremely hot and cause severe burns. Make sure the unit is cool before handling it.

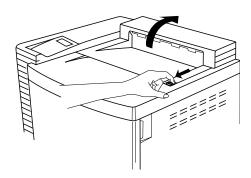
ACHTUNG! Die Fixiereinheit kann sehr heiß werden, so daß Verbrennungsgefahr besteht. Bitte lassen Sie die Fixiereinheit einige Zeit abkühlen, bevor Sie diese berühren.

- 1 Turn off the printer.
- 2 If you have an EXD, open the duplexer's rear cover.

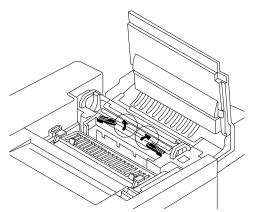
If not, skip to step 3.



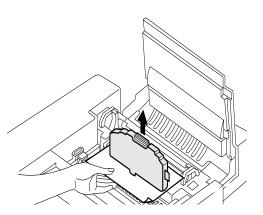
- 3 Pull the latch to release the top cover, and then open the cover.
- » Note: The illustrations for steps 4 through 11 show the printer without the duplexer. However, instructions are the same for all models.



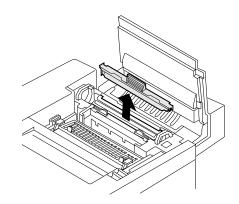
- 4 Open the printer's top cover.
- 5 Open the two green cleaning roller lock levers.



- 6 Remove the old oil bottle.
- ◆ Caution: Hold a sheet of paper under the oil bottle while removing it, so oil doesn't drip into the printer.

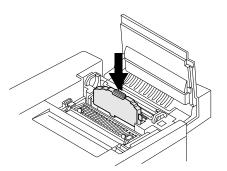


7 Remove the old cleaning roller.



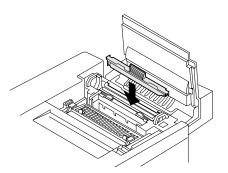
8 Lower the new oil bottle into its slot.

The tab on the side of the bottle must be on the right.



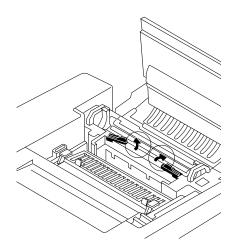
9 Install the cleaning roller in its slot.

The tab on the top of the cleaning roller must be on the left.



Replacing the Fuser Oil Bottle and Cleaning Roller

- 10 Close the two green lock levers.
- 11 Close the printer's top cover.
- 12 If you have a duplexer, close the duplexer's rear cover.
- 13 Turn on the printer.
- 14 Reset the consumables usage monitoring system.
 - a In the Operator Control/
 Consumables/Item Replaced/
 Fuser Oil menu choose Yes.
 - In the Operator Control/
 Consumables/Item Replaced/
 Cleaning Roller menu choose Yes.



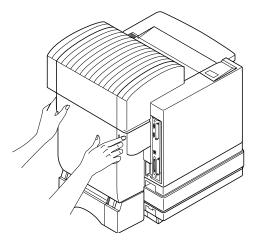
Note: When you replace the fuser oil bottle and cleaning roller after a FUSER OIL EMPTY or CHECK CLEANING ROLLER message displays in the message window, the engine automatically recovers. However, you must manually reset the consumables usage monitoring system to ensure accurate consumables monitoring.

To access consumables usage information, use the Operator Control/Consumables/Print Statistics menu or the CrownView printer web page.

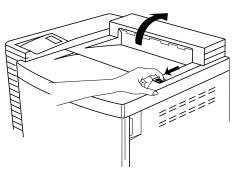
Replacing the OPC Belt Cartridge **

- ◆ Caution: The OPC belt is extremely sensitive to bright light and direct sunlight. Always leave it in its protective bag until you're ready to install it. Also, handle the cartridge carefully. The belt is also extremely sensitive to hand oils and scratches, both of which reduce print quality.
 - 1 Turn off the printer.
 - 2 Open the printer's front cover.
 - 3 If you have an EXD, open the duplexer's rear cover.

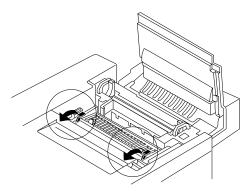
If not, skip to step 4.



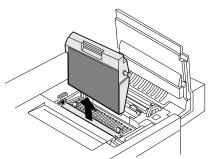
- 4 Pull the latch to release the top cover, and then open the cover.
- Note: The illustrations for steps 4–12 show the printer without the duplexer. However, the instructions are the same for all models.



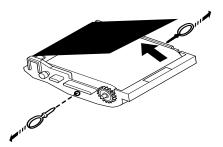
- ◆ Caution: This is necessary as it pulls the toner cartridges forward slightly to make room for the OPC belt cartridge. You could damage the OPC belt if you don't do this.
 - 5 Rotate up the two green lock levers (one on each side of the OPC belt cartridge) to release the cartridge.



6 Pull the cartridge straight up and out of the printer, and then discard it.



- 7 Remove the protective sheet from the cartridge, and then pull out the two tension-release pins (one on each side of the cartridge).
- ◆ Caution: Don't touch the green material on the cartridge. It scratches easily.

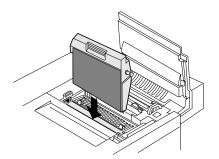


Replacing the OPC Belt Cartridge

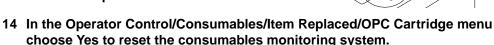
8 Holding the cartridge above the printer, align the guide pins on the cartridge with the guide slots in the green lock levers.

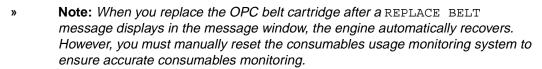
The gear on the cartridge goes to the right.

9 Gently guide the cartridge into the printer.

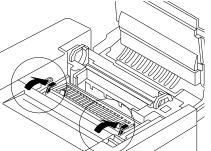


- ◆ Caution: The cartridge should slide easily into the printer. Don't force it.
 - 10 Rotate the two green lock levers to secure the OPC belt cartridge in the printer.
 - 11 Close the printer's front and top covers.
 - 12 If you have a duplexer, close the duplexer's rear cover.
 - 13 Turn on the printer.





To access consumables usage information, use the Operator Control/Consumables/Print Statistics menu or the CrownView printer web page.

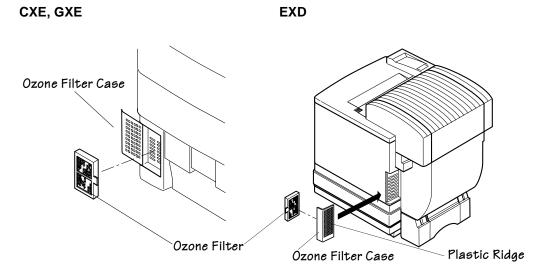


Replacing the Ozone Filter

The ozone filter reduces exhausted ozone gas.

1 Remove the ozone filter case on the left rear of the printer.

On the Duplex Model, use the plastic ridge on the right of its case to pry the ozone filter case away from the printer.



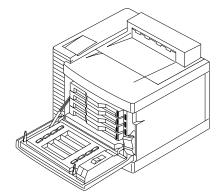
- 2 Remove the ozone filter from the case.
- 3 Install a new ozone filter in the case.
- 4 Reinstall the ozone filter case.
- 5 Discard the old ozone filter.

Replacing the Waste Toner Pack **

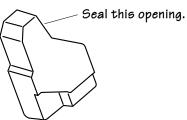
The waste toner pack collects the waste toner from the printing process so you can conveniently throw it away.

- 1 Open the printer's front cover.
- 2 Remove the waste toner pack.

The illustration for this step shows the printer without the duplexer. However, the instructions are the same for all models.



3 Use the label on the side of the old waste toner pack to seal the opening, and then dispose of the pack in accordance with safety laws and regulations in your area.



- 4 Insert the new waste toner pack.
- 5 Close the printer's front cover.
- 6 In the Operator Control/Consumables/Item Replaced/Waste Toner Pack menu choose Yes to reset the consumables monitoring system.
- Note: When you replace the waste toner pack after a CHECK WASTE TONER message displays in the message window, the engine automatically recovers. However, you must manually reset the consumables usage monitoring system to ensure accurate consumables monitoring.

To access consumables usage information, use the Operator Control/Consumables/Print Statistics menu or the CrownView printer web page.

What's Next?

Chapter 7, "CrownView Printer Web Page," explains the printer web page and web page help system.



CrownView Printer Web Page

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- "Introduction" on page 7-2
- "Setting up the Printer Web Page" on page 7-2
- "Printer Home Page" on page 7-6
- "Web Page Help System" on page 7-30